Non-Defense Environmental Management

Proposed Appropriation Language

For Department of Energy expenses, including the purchase, construction and acquisition of plant and capital equipment and other expenses necessary for non-defense environmental management activities in carrying out the purposes of the Department of Energy Organization Act (42 U.S.C. 7101 et seq.), including the acquisition or condemnation of any real property or any facility or for plant or facility acquisition construction or expansion, [$431,200,000] *$330,934,000*, to remain available until expended. *(Energy and Water Development Appropriations Act, 1999.)*

Explanation of Change

None

Non-Defense Environmental Management

Program Mission

The Environmental Management (EM) program is responsible for managing and addressing the environmental legacy resulting from the production of nuclear weapons and nuclear energy research. The nuclear energy research and development efforts of the Department of Energy and its predecessors generated waste, pollution, and contamination which pose unique problems, including unprecedented volumes of contaminated soil and water, radiological hazards from special nuclear material, and a vast number of contaminated structures. Much of this infrastructure, waste, and contamination still exists and is largely maintained, decommissioned, managed, and remediated by the EM program, which is sometimes referred to as the "cleanup program." EM's responsibilities include facilities and areas at 113 geographic sites (excluding the 21 sites in the Formerly Utilized Sites Remedial Action Project transferred to the U.S. Army Corps of Engineers). These sites are located in 30 states and one territory and occupy an area equal to that of Rhode Island and Delaware combined -- or about 2 million acres.

The FY 2000 request for the Non-Defense Environmental Management appropriation is $330,934,000, a decrease of about $100 million from the FY 1999 appropriation. EM manages and cleans up sites used for civilian, energy research, and non-defense related programs under this appropriation. Pursuant to the FY 1998 House Energy and Water Development Report (House Report 105-190), no technical assistance contracts, nor support service contracts are funded in the Non-Defense Environmental Management appropriation.

Program Goal

The EM program has established a goal of cleaning up as many of its contaminated sites as possible by 2006 in a safe and cost-effective manner. By working towards this goal, EM can reduce the hazards presently facing its workforce and the public, and reduce the financial burden on the taxpayer. The FY 2000 budget request continues to reflect the program's emphasis on site closure and project completion--in other words, finishing our work as quickly as possible.

Program Objectives

- Continue to address the most serious environmental risks across the DOE complex and ensure that facilities and activities pose no undue risks to the public and worker safety and health.
- Continue to be substantially in compliance with applicable environmental and other requirements and meet compliance milestones.
- Continue surveillance and maintenance of facilities.

Performance Measures

EM has moved aggressively towards developing and implementing a performance-based budget that clearly demonstrates the program and project results expected for the resources requested. Building upon past experience, the FY 2000 budget was enhanced by aligning performance measures by project within the specific appropriation and program accounts. These performance measures can be found in the site details that follow.

Significant Accomplishments and Program Shifts

- EM achieved a major milestone in FY 1998 which significantly contributes to the overall EM cleanup mission. In FY 1998, all Uranium Mill Tailings Remedial Action Surface Project remediation activities were completed. This brings to a close one of the Department's longest running and major environmental cleanup programs, which was authorized by Congress in 1978 and cost approximately $1.5 billion, including $100 million provided by the states involved. Under the Uranium Mill Tailings Remedial Action Surface Project, the Department completed remedial actions at 22 of the 24 originally designated sites, with two sites being delisted and their responsibility transferred to the state of North Dakota. The Project involved efforts with 11 States, 2 Indian tribes, and 23 communities. Cleanup was performed at over 5,300 vicinity properties located near the 22 designated Uranium Mill Tailings Remedial Action sites, and over 40 million cubic yards of material were remediated and nineteen long-term disposal cells were constructed. At most of these sites, groundwater contamination remains (and is being addressed by the Uranium Mill Tailings Remedial Action Groundwater Project) and the disposal cells must be permanently monitored and maintained. The completion of the Uranium Mill Tailings Remedial Action Surface Project marks a significant milestone in the Department's efforts to remediate the environmental legacy from the production of nuclear weapons. Just as mining and milling of uranium was the first step towards the production of nuclear weapons, the completion of the Uranium Mill Tailings Remedial Action Surface Project represents the first step towards "closing the circle" of the environmental legacy from nuclear weapons production.
- The FY 2000 budget request fully reflects the project-oriented structure that EM has developed as a key component of the effort to accelerate cleanup and reduce costs. All EM activities have been organized into projects which have a defined scope, schedule, cost, and end state. Through the strategies identified in the *Accelerating Cleanup: Paths to Closure* document, EM sites are working to sequence projects and track progress, thereby reducing life-cycle costs and schedules. Specific accomplishments and program shifts may be found in the site details that follow.

Funding Profile

(dollars in thousands)

	FY 1998 Current Appropriation	FY 1999 Original Appropriation	FY 1999 Adjustments	FY 1999 Current Appropriation	FY 2000 Request
Non-Defense Environmental Management					
Site Closure	270,241	254,344	-5,859 [a]	248,485	211,146
Site/Project Completion	111,687	102,948	-1,623 [a]	101,325	100,866
Post 2006 Completion	81,508	83,908	3,616 [b]	87,524	18,922
Subtotal, Non-Defense	463,436	441,200	-3,866	437,334	330,934
Use of Prior Year Balances (to satisfy Congressional offset)	0	-10,000	9,400	-600	0
Use of Prior Year Balances (to finance FY 1999 activities)	n/a	n/a	-5,534	-5,534	n/a
FFTF (transferred to NE in FY99)	41,727	0	0	0	0
Total, Non-Defense	505,163	431,200	0	431,200	330,934

Public Law Authorization:

Public Law 95-91, “Department of Energy Organization Act (1977)”
Public Law 103-62, “Government Performance and Results Act of 1993"
Public Law 105-245, “The Energy and Water Development Appropriations Act, Fiscal Year 1999"

Funding by Site

(dollars in thousands)

	FY 1998	FY 1999	FY 2000	$ Change	% Change
Albuquerque Operations Office					
Grand Junction Office	39,573	41,413	30,500	-10,913	-26.4%
Los Alamos National Laboratory	975	1,611	6,000	4,389	272.4%
Lovelace Biomedical & Environmental Research Institute	789	478	481	3	0.6%
Uranium Mill Tailings Remedial Action Groundwater Project	5,559	5,902	13,000	7,098	120.3%
Uranium Mill Tailings Remedial Action Surface Project	35,936	20,782	0	-20,782	-100.0%
Total, Albuquerque Operations Office	82,832	70,186	49,981	-20,205	-28.8%

[a] Reflects the prior year balances offset taken from new budget authority.

[b] Reflects -$1,918,000 for prior year balances offset taken from new budget authority; and +$5,534,000 for FY 1999 activities financed by prior year balances.

(dollars in thousands)

	FY 1998	FY 1999	FY 2000	$ Change	% Change
Chicago Operations Office					
Ames Laboratory	260	306	260	-46	-15.0%
Argonne National Laboratory - East	11,768	18,170	19,761	1,591	8.8%
Argonne National Laboratory - West	3,630	1,142	809	-333	-29.2%
Brookhaven National Laboratory	26,137	30,001	29,553	-448	-1.5%
Chicago Operations Office	194	1,101	644	-457	-41.5%
Princeton Plasma Physics Laboratory	3,290	3,343	3,073	-270	-8.1%
Total, Chicago Operations Office	45,279	54,063	54,100	37	0.1%
Idaho Operations Office					
Idaho National Engineering and Environmental Laboratory	7,501	10,027	9,208	-1,138	-11.3%
Oakland Operations Office					
Energy Technology Eng. Center	17,625	16,494	17,398	904	5.5%
General Atomics	4,280	2,030	1,100	-930	-45.8%
General Electric	0	313	500	187	59.7%
Lawrence Berkeley National Laboratory	9,265	10,668	11,098	430	4.0%
Oakland Operations Office	87	0	300	300	>999%
Stanford Linear Accelerator Center	1,006	1,000	1,400	400	40.0%
U.C. Davis/Lab for Energy-Related Health Research	6,802	4,389	3,863	-526	-12.0%
Total, Oakland Operations Office	39,065	34,894	35,659	765	2.2%
Oak Ridge Operations Office					
Oak Ridge National Laboratory	41,519	59,677	0	-59,677	-100.0%
Oak Ridge Operations Office	1,523	1,100	1,105	5	0.5%
Oak Ridge Reservation	15,512	6,901	2,297	-4,604	-66.7%
Oak Ridge Offsite Locations	6,993	3,427	400	-3,027	-88.3%
Weldon Spring Site	66,686	63,500	52,000 [a]	-11,500	-18.1%
Total, Oak Ridge Operations Office	132,233	134,605	55,802	-78,803	-58.5%
Ohio Field Office					
Columbus	7,749	8,532	7,293	-1,239	-14.5%
Miamisburg	992	1,003	1,000	-3	-0.3%
West Valley	113,746	107,353	107,353	0	0.0%
Total, Ohio Field Office	122,487	116,888	115,646	-1,242	-1.1%

[a] It is the intent of the Environmental Management Program to fund the Weldon Spring Site Remedial Action Project at a program level of $63.5 million. The program will work to identify funding sources for this important activity.

(dollars in thousands)

	FY 1998	FY 1999	FY 2000	$ Change	% Change
Richland Operations Office					
Hanford Site	19,053	1,863	1,418	-445	-23.9%
Savannah River					
Savannah River Site	4,248	0	0	0	0.0%
Multi-Site Activities	10,738	9,274	9,120	-154	-1.7%
FY 1999 activities financed by prior year bal	n/a	5,534	n/a	n/a	n/a
Subtotal, Non-Defense Environmental Mgmt	463,436	437,334	330,934	-101,185	-23.1%
Use of Prior Year Balances (to satisfy Congressional offset)	0	-600	0	600	-100.0%
Use of Prior Year Balances (to finance FY 1999 activities)	n/a	-5,534	n/a	n/a	n/a
FFTF (transferred to NE in FY 99)	41,727	0	0	0	0.0%
Subtotal, Non-Defense Environmental Mgmt	505,163	431,200	330,934	-100,585	-23.3%

Site Closure

Program Mission

The Non-Defense Site Closure account, includes sites where the Environmental Management program plans to complete its mission by the end of FY 2006. This account includes funding for the West Valley Demonstration Project in New York, the Battelle Columbus Laboratory and the Mound Plant in Ohio, projects under the Grand Junction Office in Colorado, Uranium Mill Tailings Remedial Action Surface and Ground Water Projects at various locations, and the Weldon Spring Site in Missouri.

Program Goal

Accelerating cleanup and project completion is a central goal of the Environmental Management program. This goal is part of the strategies identified in the *Accelerating Cleanup: Paths To Closure* document, whereby all Environmental Management sites are working aggressively to reduce outyear costs by completing projects as soon and as efficiently as possible, thereby reducing life-cycle costs and schedules. For those sites in the Site Closure account, the goal of the Environmental Management program is to complete the cleanup mission by FY 2006, after which no further Departmental mission is envisioned, except for limited long-term surveillance and maintenance, and the sites will be available for some alternative use.

Program Objectives

- Continue to accelerate cleanup efforts at sites and realize substantial savings by the resulting reduction in long-term program costs and ongoing support costs.
- Where possible, once the cleanup mission has been accomplished, make sites available to communities for other uses.

Performance Measures

Environmental Management has moved aggressively towards developing and implementing a performance-based budget that clearly demonstrates the program and project results expected for the resources requested. Building upon past experience, the FY 2000 budget was enhanced by aligning performance measures by project within the specific appropriation and program accounts. These performance measures can be found in the site details that follow.

Significant Accomplishments and Program Shifts

The FY 2000 budget request fully reflects the project-oriented structure that the Environmental Management has developed as a key component of the effort to accelerate cleanup and reduce costs. All Environmental Management activities have been organized into projects, which have a defined scope, schedule, cost, and end state. Through the strategies identified in the *Accelerating Cleanup: Paths to Closure* document, the Environmental Management sites are working to sequence projects and track progress, thereby reducing life-cycle costs and schedules. Specific accomplishments and program shifts may be found in the site details that follow.

Funding Profile

(dollars in thousands)

	FY 1998	FY 1999	FY 2000	$ Change	% Change
Albuquerque Operations Office	81,068	68,097	43,500	-24,597	-36.1%
Oak Ridge Operations Office	66,686	63,500	52,000 [a]	-11,500	-18.1%
Ohio Field Office	122,487	116,888	115,646	-1,242	-1.1%
Total, Site Closure, Non-Defense	270,241	248,485	211,146	-37,339	-15.0%

Public Law Authorization:

Public Law 95-91, Department of Energy Organization Act (1977)

Public Law 95-604, Uranium Mill Tailings Radiation Control Act (1978)

Public Law 100-616, Uranium Mill Tailings Remedial Action Amendments Act of 1988

Public Law 105-245, The Energy and Water Development Appropriations Act, Fiscal Year 1999

Public Law 96-368, West Valley Demonstration Project Act of 1980.

[a] It is the intent of the Environmental Management Program to fund the Weldon Spring Site Remedial Action Project at a program level of $63,500,000. The program will work to identify funding sources for this important activity.

Albuquerque

Mission Supporting Goals and Objectives

Mission

The mission of the Non-Defense Environmental Management Site Closure Program, managed through the Albuquerque Operations Office, is to complete the cleanup of all release sites assigned to the Program and to continue several longer-term programs as required. Virtually all of this work from FY 2000 on will be performed by the Grand Junction Office in Colorado. The release sites include the 57 acre Grand Junction Office facility, the Monticello Millsite in Utah, and the 22 inactive uranium millsites that were designated by Congress for cleanup by the Uranium Mill Tailings Remedial Action Surface and Ground Water Projects program. Continuing missions include the Long-Term Surveillance and Maintenance Program and the Uranium Lease Management Program. The current mission also includes the facility management of the Grand Junction Office site including waste management at the site. It is no longer cost-effective to operate and maintain the entire 57 acre Grand Junction Office facility for the planned mission. The Department is working with the Grand Junction community to identify options for making all or part of the facility available for other productive uses, while continuing the Grand Junction Office mission in Grand Junction.

Program Goal

The Albuquerque Operations Office goal is to complete cleanup of all geographic sites under this program by FY 2006, with the exception of ground water cleanup at several of the Uranium Mill Tailings Remedial Action sites. A major milestone is the completion of the Uranium Mill Tailings Remedial Action Surface Project remedial actions in FY 1998 and closeout of the Project in FY 1999. At the request of the State of North Dakota, the designations of the two North Dakota Uranium Mill Tailings Remedial Action sites were revoked in FY 1998, reducing the number of Uranium Mill Tailings Remedial Action sites from 24 to 22. The Long-Term Surveillance and Maintenance Program is responsible for the long-term custody and care of more than 50 disposal sites and will continue indefinitely. The Uranium Lease Program will continue until active leases expire and reclamation of mine sites is completed (estimated to be by FY 2010). The Uranium Mill Tailings Remedial Action Ground Water Project is scheduled to be completed by 2012, at which time sites that require longer-term monitoring or maintenance will be transferred to the Long-Term Surveillance and Maintenance Program. The goal for the Grand Junction Office site is to complete the site cleanup and to transfer the facility to a community group(s) for alternative uses by FY 2003 and to continue the Department of Energy mission at other facilities in Grand Junction or at a small portion of the facility using a lease-back arrangement.

Program Objectives

The Uranium Mill Tailings Remedial Action Ground Water Program objective is to eliminate or reduce to acceptable levels the potential health and environmental consequences of milling activities on ground water at inactive uranium processing sites under P.L. 95-604. The Uranium Mill Tailings Remedial Action Ground Water Program uses a risk-based decision-making process that ensures consistency in choosing site-specific active, passive, or no-remediation strategies to comply with ground water standards. By conducting program compliance in this cost-effective and timely manner, active restoration techniques should be limited to only three sites where the level of risk is unacceptable

The Grand Junction Office will continue to decommission buildings at its site under the Grand Junction Office Remedial Action Project, as well as complete significant remediation at the Monticello, Utah mill and vicinity property sites. The approach of preparing the Grand Junction Office site disposition for re-use and cleaning up the Monticello sites, thereby reducing the overall program workload, will support the future downsized mission of the Grand Junction Office.

Performance Measures

Performance Measures are provided at an aggregate level after the Funding by Site table; as well as at a project level, in the Detailed Program Justification.

Significant Accomplishments and Program Shifts

Uranium Mill Tailings Remedial Action Surface Project

- Revoked designations of the Belfield and Bowman, North Dakota, Uranium Mill Tailings Remedial Action Sites. This action removed both sites from the Uranium Mill Tailings Remedial Action Surface and Ground Water Projects program.
- Completed Remedial Actions at the final 2 Uranium Mill Tailings Remedial Action sites: Naturita and Maybell, both in Colorado (FY 1998).
- Complete project closure with the licensing and transfer of the final sites to the Long-Term Surveillance and Maintenance Program and the termination of the prime contracts (FY 1999).

Uranium Mill Tailings Remedial Action Ground Water Project

- Completed five release sites: Ambrosia Lake, New Mexico; Falls City, Texas; Canonsburg, Pennsylvania; Salt Lake City, Utah; and Riverton, Wyoming (FY 1998).
- Completed one interim action, provision of an alternate water supply, in cooperation with the Indian Health Service, at the Riverton, Wyoming, site that is adjacent to the Wind River Reservation (shared by Arapaho Nation and Shoshone Tribe) (FY 1998).
- Complete four release sites: Mexican Hat, Utah; Rifle, Colorado (two sites); and Grand Junction, Colorado (FY 1999).

Start active ground water restoration at two sites: Tuba City, Arizona and Monument Valley, Arizona (FY 1999).

Complete alternate water supply at Monument Valley, Arizona, and complete field investigation at Shiprock, New Mexico (FY 1999).

Monticello Projects

Hauled and placed 1.1 million cubic yards of mill tailings to the repository; completed cleanup of vicinity properties; completed soil remediation in the lower Montezuma Creek Canyon; and initiated interim remedial action for ground water (FY 1998).

Haul and place final 0.6 million cubic yards of mill tailings to repository; complete cleanup of peripheral and vicinity properties; complete cleanup of the Montezuma Creek Canyon and interim remedial action for ground water (FY 1999).

Grand Junction Office All Other Projects

Paid cost of site mill tailings disposal at Cheney; conducted site environmental monitoring; provided for facility management support; initiated reimbursement of former site contractor for contract close-out; and provided support for Long-Term Surveillance and Maintenance for 25 sites and Uranium Leasing Program activities for 43 sites (FY 1998).

Conduct site environmental monitoring; decommission three site buildings; provide for facility management support, reimburse former site contractor for contract close-out; provide support for long-term surveillance and maintenance for up to 30 sites and Uranium Leasing Program activities for 43 sites; and re-start reclamation of disturbed uranium leasing tracts where no lease holder is liable (FY 1999).

Funding Schedule

(dollars in thousands)

	FY 1998	FY 1999	FY 2000	$ Change	% Change
AL-020 / Surface Remedial Action Project . .	35,936	20,782	0	-20,782	-100.0%
AL-022 / Monticello Projects	25,558	34,250	22,000	-12,250	-35.8%
AL-023 / Uranium Mill Tailings Remedial Action Ground Water	5,559	5,902	13,000	7,098	120.3%
AL-024 / Grand Junction Office All Other Projects	14,015	7,163	8,500	1,337	18.7%
Total, Albuquerque	81,068	68,097	43,500	-24,597	-36.1%

Funding by Site

(dollars in thousands)

	FY 1998	FY 1999	FY 2000	$ Change	% Change
Uranium Mill Tailings Remedial Action Surface	35,936	20,782	0	-20,782	-100.0%
Monticello	25,558	34,250	22,000	-12,250	-35.8%
Uranium Mill Tailings Remedial Action Ground water	5,559	5,902	13,000	7,098	120.3%
Grand Junction Office	14,015	7,163	8,500	1,337	18.7%
Total, Albuquerque	81,068	68,097	43,500	-24,597	-36.1%

Metrics Summary

	FY 1998	FY 1999	FY 2000
Remedial Action/Release Site			
Assessments	7.0	4.0	0.0
Cleanups	13.0	5.0	5.0
Facility Decommissioning			
Assessments	0.0	0.0	10.0
Cleanups	0.0	3.0	11.0

Site Description

Grand Junction Office

The Grand Junction Office is located immediately south of the City of Grand Junction, Colorado, on a 57 acre site adjacent to the Gunnison River. The Grand Junction Office supports environmental management activities in the areas of site characterization, project integration and coordination, remedial design, remedial action, independent verification, decontamination and dismantlement, and long-term surveillance and maintenance. Current Grand Junction Office project assignments include the Monticello millsite and vicinity properties cleanup, the Grand Junction Office Remedial Action Project, the Long-Term Surveillance and Maintenance Program, the Uranium Leasing Program, the Grand Junction Office Waste Management Program, the Grand Junction Office Landlord Program, and the Uranium Mill Tailings Remedial Action Ground Water Project. The Grand Junction Office Program is comprised of 22 release sites and 44 facilities, and the Uranium Mill Tailings Remedial Action Ground Water Project consists of 22 release sites.

The Grand Junction Office also performs the ground water cleanup (Pinellas) and Maxey Flats Field Management projects (both contained in Site/Project Completion Defense) and other projects in support of the Albuquerque Operations Office and Headquarters.

Monticello Projects

Environmental cleanup efforts at and around Monticello, Utah, include remedial action on a 110-acre inactive Government-owned uranium/vanadium mill processing site and the adjacent private and the Department of Energy owned peripheral properties, assessment and remediation of surface and ground water contamination near Monticello, and remediation of more than 400 private properties (referred to as "Vicinity Properties") which have been contaminated by mill tailings from the Monticello millsite.

The Monticello Projects are high visibility projects with the Environmental Protection Agency and State of Utah. The Monticello Vicinity Properties Site and the Monticello Mill Tailings Site, both located in Monticello, Utah, are on the National Priorities List and are being remediated in accordance with the Comprehensive Environmental Response, Compensation and Liability Act. A Federal Facility Agreement among the Department of Energy, the Environmental Protection Agency, and the State establishes the Department of Energy as the responsible party for remedial action and the Environmental Protection Agency as the lead agency with the ultimate responsibility and authority. The Environmental Protection Agency shares its decision-making authority with the State of Utah.

Vanadium and uranium were processed at the Monticello Millsite in the late 1940s to the late 1950s. Approximately 1.7 million cubic yards of mill tailings remained on the millsite and another 0.7 million cubic yards had been relocated off-site by wind and water erosion, or through use of the material in construction in the City of Monticello and adjacent vicinity and peripheral properties. The sites were listed on the National Priority List because of significant risk to human health associated with the tailings and tailings-contaminated soils. Radon emitted from the tailings piles on the millsite exceeds the Environmental Protection Agency's standards for the off-site exposure. The tailings deposited in the community pose unacceptable risk of radon accumulation in structures. The tailings piles are in direct contact with an alluvial ground-water flow system which discharges to Montezuma Creek. Contaminant levels in the creek exceed State of Utah standards for surface water. The ground water has been contaminated by the tailings. While the ground water is not currently used for domestic consumption, there are no institutional controls to prevent its use, and human consumption would cause unacceptable health risks. A Feasibility Study is in preparation to support selection of a preferred remedy for restoration of surface and ground water quality. Tailings deposited in sediments along Montezuma Creek will be remediated to control risk to humans and the environment to within acceptable levels.

The Monticello Mill Tailings Site consists of three operable units. Operable Unit I is remediation of the 110-acre millsite requiring removal of tailings and placement into an on-site repository. Removal of 1,700,000 cubic yards (total at completion) of tailings-contaminated soil from the millsite and placement into the repository is expected. The repository has been excavated and lined with a Resource Conservation and Recovery Act-equivalent liner system. Operable Unit II is remediation of 330 acres of peripheral properties. Removal of about 550,000 cubic yards of tailings-contaminated soils from these properties is expected. Operable Unit III is remediation of contaminated ground water and surface water at the millsite and downstream from the millsite. Also included in Operable Unit III is remediation of contaminated sediments deposited along approximately three miles of Montezuma Creek. All contaminated material has been removed. To date, the repository has received 2,000,000 cubic yards of tailings-contaminated soil.

The Monticello Vicinity Properties Site entails the remediation of 424 properties contaminated with tailings and/or uranium ore. To date, nearly all properties have been remediated. Removal of 130,000 cubic yards (total at completion) of tailings-contaminated soil from these properties is expected.

Uranium Mill Tailings Remedial Action Surface

The Uranium Mill Tailings Remedial Action Surface Project was created as a result of Public Law 95-04, "The Uranium Mill Tailings Radiation Control Act of 1978," which authorized the Department to conduct a mill tailings stabilization and control program at inactive uranium ore processing sites that were contaminated with tailings and other byproducts of uranium milling operations. The program includes approximately 5,300 associated vicinity properties which became contaminated by windblown waste or debris or contaminated materials used in construction or landscaping. Each mill tailings processing site is comprised of one release site. The Uranium Mill Tailings Remedial Action Surface Project activity supports efforts in eleven states (Arizona, Colorado, Idaho, New Mexico, North Dakota, South Dakota, Oregon, Pennsylvania, Texas, Utah, and Wyoming) and with two Indian tribes. The Uranium Mill Tailings Remedial Action Surface Project is a cost-shared project, with the Federal Government paying 90 percent of the remedial action cost and the States paying ten percent. When the sites are on Indian lands, the Department pays the entire cost of the remedial action. Remedial action had been completed for 22 of the 24 former uranium ore processing sites as of the end of FY 1997. Remedial action at two sites (Maybell and Naturita, Colorado) was completed in FY 1998. At the request of the State of North Dakota, the designations of the two North Dakota sites were revoked in 1998, reducing the total number of sites to 22. The remaining activities to complete project closeout of all contracts and the licensing of the remaining sites will be accomplished in FY 1999.

The Uranium Mill Tailings Remedial Action Amendments Act of 1988 (P.L. 100-616) extended the Department's authority to conduct remedial actions at the designated sites through the end of FY 1994, and that authority was subsequently extended to the end of FY 1996. Public Law 104-259, signed by President Clinton on October 9, 1996, provided a final extension through FY 1998, to allow orderly termination of the Surface Project. It also authorizes the Cheney disposal site in Grand Junction, Colorado, to remain open for up to 25 years to accept vicinity property or ground water wastes from Title I sites and vicinity property material from the Monticello, Utah Project after the Monticello cell closes.

Uranium Mill Tailings Remedial Action Ground Water

The Uranium Mill Tailings Remedial Action Ground Water Project will carry out additional characterization and compliance efforts not covered by the Uranium Mill Tailings Remedial Action Surface Project, at 22 designated uranium mill tailings sites. The project was initially authorized by Public Law 95-604. Each mill tailings site is a ground water release site. Public Law 100-616 authorized ground water compliance activities for an unlimited period of time. Where active remedial action is required, the Department will pay 90 percent of the costs; the States will pay ten percent. The Department is responsible for the entire cost of the remedial action for sites on Indian lands. Key activities in FY 1999 are to initiate active ground water compliance activities at the Tuba City and Monument Valley, Arizona, sites and to complete four release sites (Mexican Hat, Utah; two in Rifle, Colorado; and Grand Junction); complete one alternate water supply at Monument Valley; initiate a field investigation at Naturita, Colorado; and complete a field investigation at Shiprock, New Mexico.

Detailed Program Justification

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
AL-020 / Uranium Mill Tailings Remedial Action - Surface Remedial Action Project			
This project stabilized and controlled uranium mill tailings from 22 inactive processing sites. The project is closed out in FY 1999. All funding in FY 1999 is for closeout.			
# No activity.			
AL-020	35,936	20,782	0

Metrics			
Remedial Action/Release Sites			
Cleanups	2.0	0.0	0.0

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
AL-022 / Monticello Projects			
This project will provide remediation and restoration of the mill site, cleanup of vicinity and peripheral properties, and surface and ground water cleanup.			
# Complete cleanup of the mill site; complete the disposal cell cover, and initiate mill site reclamation, continue cleanup of the Montezuma Creek and interim remedial action for ground water. These activities fully support the Grand Junction Office mission in the timely cleanup and delisting of the Monticello Mill and Vicinity Properties National Priority List sites.			
AL-022	25,558	34,250	22,000
Metrics			
Remedial Action/Release Sites			
Cleanups	6.0	1.0	5.0
AL-023 / Uranium Mill Tailings Remedial Action Ground Water			
The purpose of the Project is to achieve compliance with the Environmental Protection Agency's ground water standards at the 22 sites remediated by the Uranium Mill Tailings Remedial Action Surface Project. Contamination at the sites occurred prior to the Department of Energy cleanup of the tailings, and in most cases has migrated beyond the original mill site, and in many cases is underneath adjacent private property.			
The Environmental Protection Agency standards for Uranium Mill Tailings Remedial Action Title I sites provides the Department of Energy with flexibility to achieve compliance through a range of strategies that recognize different levels of risk. Characterization and baseline risk assessments have been conducted at all of the sites, and no one is at immediate risk from using contaminated ground water. At four sites, where there was a potential for near-term human exposure, alternate water supplies are being provided as interim actions. At this time it appears three sites will require active cleanup, nine sites will achieve compliance through natural attenuation, and the remaining ten sites will employ Supplemental Standards or Alternate Concentration Limits.			

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
A Uranium Mill Tailings Remedial Action Ground Water Programmatic Environmental Impact Statement was approved in May 1997, which lays out the overall Project approach for selecting compliance strategies. Site-specific Environmental Assessments are prepared that tier off of the Programmatic Environmental Impact Statement. These Environmental Assessments are usually 25 pages or less and are prepared to the extent possible by the Department of Energy staff, which minimizes costs.			
# Conduct Phase I remediation strategies at 2 sites: Tuba City and Monument Valley, Arizona; complete Work Plan at Shiprock, New Mexico.			
# Complete field investigations/initiate Work Plans at 4 sites: Durango, Gunnison, and Slick Rock (two sites), Colorado.			
# Complete National Environmental Policy Act documentation at Rifle, Colorado and Shiprock, New Mexico.			
# Perform monitoring at eight sites, and maintain cooperative agreements and Nuclear Regulatory Commission support.			
# Initiate remediation at Shiprock, New Mexico; and conduct characterization at other sites in the Project. By the end of FY 2000, the Project plans to have completed 11 release sites and have active cleanup underway at the three sites projected to require active remediation.			
AL-023	5,559	5,902	13,000

Metrics			
Remedial Action/Release Sites			
Assessments	7.0	4.0	0.0
Cleanups	5.0	4.0	0.0

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
AL-024 / Grand Junction Office All Other Projects			
Provides for Grand Junction Office site cleanup, environmental monitoring activities, facility management, administration of uranium leases, Long-Term Surveillance and Maintenance, and waste management and minimization activities.			
# Conduct site environmental monitoring; complete ten assessments and 13 building decommissionings at the site; provide for facility management support; reimburse former site contractor for contract close-out; conduct Long-Term Surveillance and Maintenance at up to 30 sites; and support Uranium Leasing Program activities for 43 sites.			
AL-024	14,015	7,163	8,500
Metrics			
Facility Decommissioning			
Assessments	0.0	0.0	10.0
Cleanups	0.0	3.0	11.0
Total, Albuquerque	81,068	68,097	43,500

Explanation of Funding Changes from FY 1999 to FY 2000

	FY 2000 vs. FY 1999 ($000)
AL-020 / Uranium Mill Tailings Remedial Action - Surface Remedial Action Project	
# Reduction due to completion of remediation in FY 1998 and closure of project in FY 1999.	-20,782
AL-022 / Monticello Projects	
# The requested funding level is a reduction from the peak FY 1999 funding and reflects the nearing of completion of work at the mill site project.	-12,250
AL-023 / Uranium Mill Tailings Remedial Action Ground Water	
# The increase is needed because it will be the first year the active cleanups will be under way at all three active remediation sites. The active cleanups will be the most cost intensive part of the Project. The cleanups are sensitive in that all three are on Native American lands, and the cleanup of ground water has cultural significance to the tribes as well as health and safety benefits. Work at the active compliance strategy sites will increase significantly and additional field investigation work will commence.	7,098
AL-024 / Grand Junction Office All Other Projects	
# The requested reduction in Monticello Projects (AL-022) allows a marginal increase in funding for Grand Junction Office All Other Projects. This increase principally funds Long-Term Surveillance and Maintenance in the transfer, administration, monitoring, and maintenance of completed Title I, Title II, and other sites as they become the responsibility of the program.	1,337
Total Funding Change, Albuquerque	-24,597

Oak Ridge

Mission Supporting Goals and Objectives

Mission

The mission of the Non-Defense, Environmental Management Site Closure program at the Oak Ridge Operations Office is to direct and manage about one million cubic yards of waste at the 226 acre Weldon Spring Site Remedial Action Project in Missouri, which includes an abandoned decommissioned uranium processing plant, a contaminated quarry used for waste disposal, as well as numerous vicinity properties that were contaminated during processing operations.

Program Goal

The goal of this program is to use an accelerated remediation strategy to complete the environmental restoration and permanent on-site disposal of waste at the Weldon Spring Site as soon as possible before FY 2006. This will enable the early completion of restoration work to reduce health risks and free up funding to accelerate remediation goals at other Oak Ridge sites. The post remediation activity will be long-term surveillance and maintenance, with the restored land released for unrestricted use.

Program Objectives

The objective is to place all non-releasable contaminated material (soil, debris, pit waste) in the on-site disposal facility for long-term, permanent disposal. Raffinate pit waste will be treated in the Chemical Stabilization/Solidification Facility utilizing state-of-the-art grout technology and placed in the disposal facility. Quarry waste currently in temporary storage will be placed in the disposal facility. Restricted use areas, including the disposal facility, will be placed under long-term surveillance and maintenance until restrictions are no longer needed. The long-term objective for restored land will be to return it to interested local stakeholders for unrestricted use and potential economic development. A stewardship plan in development will determine the appropriate, specific use of unrestricted land.

Performance Measures

Performance Measures are provided at an aggregate level after the Funding by Site table; as well as at a project level in the Detailed Program Justification.

Significant Accomplishments and Program Shifts

In FY 1998, the on-site disposal facility Phase I construction was completed and placement of waste was initiated. By the end of FY 1998 640,000 cubic yards of waste were placed in the disposal facility. The Chemical Stabilization/Solidification facility was constructed, operationally tested, and waste treatment of the raffinate pit waste was begun, and 140,000 cubic yards of grout were placed in the disposal facility. Remediation of Army, Missouri Department of Conservation and the Southeast Drainage vicinity properties was completed, and the design of the raffinate pits restoration was begun. The Quarry Residuals Operable Unit Record of Decision was completed and delivered to the Environmental Protection Agency for approval.

In FY 1999, treatment of raffinate pit waste in the Chemical Stabilization/Solidification Facility and placement in the disposal facility will be completed, with the last 80,000 cubic yards of grouted waste placed. The majority of waste placement (equipment, soils, debris) in the disposal facility will be completed for a total of 630,000 cubic yards placed in FY 1999. The restoration design of the quarry and the main chemical plant site will be initiated, and the restoration of the raffinate pits will begin. The Ground Water Operable Unit Record of Decision will be completed and submitted to the Environmental Protection Agency for approval.

In FY 2000, continue construction of the on-site disposal facility and complete placement of 1.4 million cubic yards of waste. Begin construction of the disposal facility cover, begin quarry area restoration of the borrow area, and initiate chemical plant area restoration and complete raffinate pits restoration.

The FY 2000 request level is sufficient to meet the current project closure schedule of FY 2002.

Funding Schedule

(dollars in thousands)

	FY 1998	FY 1999	FY 2000	$ Change	% Change
OR-47201 / Weldon Spring Disposal Facility	49,786	51,200	51,500	300	0.6%
OR-47202 / Weldon Spring Waste Treatment	16,900	12,300	500	-11,800	-95.9%
Total, Oak Ridge	66,686	63,500	52,000 [a]	-11,500	-18.1%

Funding by Site

(dollars in thousands)

	FY 1998	FY 1999	FY 2000	$ Change	% Change
Weldon Spring Site Remedial Action Program (WSSRAP)	66,686	63,500	52,000	-11,500	-18.1%
Total, Oak Ridge	66,686	63,500	52,000 [a]	-11,500	-18.1%

[a] It is the intent of the Environmental Management Program to fund the Weldon Spring Site Remedial Action Project at a program level of $63,500,000. The program will work to identify funding sources for this important activity.

Metrics Summary

	FY 1998	FY 1999	FY 2000
Facility Decommissioning			
Cleanups	0.0	0.0	1.0
Remedial Action/Release Site			
Assessments	4.0	2.0	0.0
Cleanups	5.0	6.0	1.0

Site Description

The site, located 30 miles west of St. Louis, Missouri, was built by the Department of Army and used for explosives production until 1946. It was converted and operated for the Atomic Energy Commission as a feed materials plant between 1955 and 1966. During operations of the plant, the buildings, equipment, immediate terrain, process sewer system, and drainage easement to the Missouri River became contaminated.

The site consists of two separate facilities, the Weldon Spring Quarry (9 acres) and the Chemical Plant Site (217 acres). The latter includes the raffinate disposal areas (51 acres).

Detailed Program Justification

(dollars in thousands)

FY 1998	FY 1999	FY 2000

The Weldon Spring Site is managed through a fixed fee integrated contract with fixed price contracts to ensure the most cost efficient service to the Government. The scope planned for FY 2000 has been reviewed and is appropriate to meet the goals of the site as outlined in the *Accelerating Cleanup: Paths to Closure*. The projects included in this section of the budget have had an independent cost review of the scope or are currently undergoing a cost review, and the funds requested for FY 2000 are appropriate to perform the activities based on the long history of fixed price contracts at the site.

(dollars in thousands)

	FY 1998	FY 1999	FY 2000

OR-47201 / Weldon Spring Disposal Facility

This project provides for environmental restoration of the chemical plant and quarry areas so as to place them in a radiologically/chemically safe condition to protect the public and environment. The activities being performed in FY 2000 at the funding level requested are identified for execution in FY 2000 in the approved project baseline and have planned and enforceable milestones as agreed under the Federal Facilities Agreement with the Environmental Protection Agency.

- **#** Continue construction and placement of waste in the on-site disposal facility.
- **#** Continue the operation of the soil borrow area for the construction of the disposal facility.
- **#** Begin quarry restoration.
- **#** Continue support facilities demolition and restoration.
- **#** Begin chemical plant restoration.

OR-47201	49,786	51,200	51,500

Metrics			
Facility Decommissioning			
Cleanups	0.0	0.0	1.0
Remedial Action/Release Sites			
Assessments	4.0	2.0	0.0
Cleanups	5.0	6.0	1.0

OR-47202 / Weldon Spring Waste Treatment

This project provides for the treatment of waste pit sludges and the subsequent environmental restoration of the four raffinate pits at the Chemical Plant Site so as to place them in a radiologically/chemically safe condition to protect the public and environment. The activities being performed in FY 2000 at the funding level requested are identified for execution in FY 2000 in the approved project baseline and have planned and enforceable milestones as agreed under the Federal Facilities Agreement with the Environmental Protection Agency.

- **#** Continue raffinate pit restoration.

OR-47202	16,900	12,300	500

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
Metrics			
This project has associated corporate performance measures; however, no measures are reportable in the three year budget profile.	0.0	0.0	0.0
Total, Oak Ridge	66,686	63,500	52,000 [a]

Explanation of Funding Changes from FY 1999 to FY 2000

	FY 2000 vs. FY 1999 ($000)
OR-47201 / Weldon Spring Disposal Facility	
# No significant changes.	300
OR-47202 / Weldon Spring Waste Treatment	
# The decrease is due to the completion of waste treatment at the Chemical Stabilization/Solidification facility in early FY 1999.	-11,800
Total Funding Change, Oak Ridge	-11,500 [a]

[a] It is the intent of the Environmental Management Program to fund the Weldon Spring Site Remedial Action Project at a program level of $63,500,000. The program will work to identify funding sources for this important activity.

Ohio

Mission Supporting Goals and Objectives

Mission

The mission of the Non-Defense Site Closure Environmental Management program managed through the Ohio Field Office, is to support cleanup activities at three sites in two states. Sites include: the Columbus Environmental Management Project and the Miamisburg Environmental Management Project in the State of Ohio, and the West Valley Demonstration Project in the State of New York.

Program Goal

The goal for all Ohio Field Office sites is the disposition of real property to the state(s) or communities, resulting in an environmentally-restored end state by 2006. These goals consist of continuing remedial actions to prevent the spread of existing contamination; complete the ongoing remedial action and decontamination activities at Columbus Environmental Management Project sites; cleanups of the buildings and soil at the Miamisburg Environmental Management Project continue the vitrification/solidification of high-level waste tank heels material and the transitioning from maintaining safe storage of spent nuclear fuel to readying the fuel for shipment from the West Valley Site. The estimated completion date for the West Valley Demonstration Project may extend through FY 2015, reflecting several uncertainties discussed below.

Program Objectives

The Miamisburg Environmental Management Project site will be transferred to the City of Miamisburg, the Columbus Environmental Management Project site will be returned to Battelle Laboratories, both for unrestricted use, by the end of 2006. The Columbus Environmental Management Project will decontaminate buildings at Battelle, including transuranic waste processing and associated equipment removal; and remediate solids from external areas at the site.

The West Valley Demonstration Project will be returned to New York State upon completion of the DOE's responsibilities per the West Valley Demonstration Project Act. The estimated completion date for the West Valley Demonstration Project may extend through FY 2015, reflecting the uncertainty related to the schedule for implementing the various alternatives being analyzed for the future Environmental Impact Statement/Record of Decision, which will define the requirements for the out year scope of work, along with other challenges, such as: the ability to ship the high level waste canisters off-site to an interim storage location; ability to ship transuranic waste to an interim storage location; the shipment of spent nuclear fuel to Idaho; completion of the Record of Decision and issuance, by the

Nuclear Regulatory Commission, of decontamination and decommissioning criteria by FY 2000; and resolution of the responsibility issues between DOE and New York State.

Performance Measures

Performance Measures are provided at an aggregate level after the Funding by Site table; as well as at a project level, in the Detailed Program Justification.

Significant Accomplishments and Program Shifts

Columbus Environmental Management Project

- Initiated transuranic waste processing (FY 1998).
- Initiated interior decontamination of the West Jefferson building JN-1, including material and equipment removal (FY 1998).
- Provided required core environmental and surveillance and maintenance activities, including facility structural/hazard analysis of major building systems (FY 1998).
- Initiated and continue shipments of low-level waste (FY 1998/FY 1999).
- Initiate the decontamination of two buildings at Battelle Columbus Lab including transuranic waste processing and associated equipment removal; and remediate soils from external areas at the site (FY 2000).

West Valley Demonstration Project

- Completed the primary vitrification campaign on June 10, 1998, ahead of the baseline schedule and below the budgeted cost (FY 1998).
- Safely maintained spent nuclear fuel in storage including procedure development, safety concerns resolution, and annual Safety Analysis Report updates and training programs and operating procedure development for FY 1998 and FY 1999.
- Continue vitrification of tank high-level waste and initiate vitrification of high-level waste tank heels; 81 canisters (FY 1998); 15 canisters (FY 1999).
- Resolve responsibility issues with New York State Energy Research and Development Authority (FY 1999).
- Completed Citizens Task Force input for developing an Environmental Impact Statement preferred alternative (FY 1998); develop preferred alternative for the supplement to the Draft Environmental Impact Statement (FY 1999).
- Continue to store disposal-ready high-level waste canisters (FY 1998/FY 1999).
- Prepared and submitted Spent Nuclear Fuel shipping cask recertification applications to the Nuclear Regulatory Commission (FY 1998).

- Obtain Nuclear Regulatory Commission approval of general decontamination and decommissioning criteria based on Supplement to the Draft Environmental Impact Statement (FY 1999).
- Submitted application to the Nuclear Regulatory Commission for elimination of poison and filler rods for pressurized water reactor fuel (FY 1998).
- Selected backup cask for damaged fuel shipment (FY 1998); issue draft Transportation Plan for review and comment, and select rail transportation route (FY 1999).
- Completed conceptual design of high-level waste canister load-out facility and remote handled waste facility (FY 1998).
- Developed high-level waste tank farm cutoff strategy (FY 1998); develop Vitrification Facility Deactivation Plan (FY 1999).
- Continue vitrification of high-level waste tank heels at West Valley, producing five canisters of solidified high-level waste and complete the transition from maintaining safe storage of West Valley Spent Nuclear Fuel to readying the fuel and systems to initiate shipments to the Idaho National Engineering and Environmental Laboratory in FY 2001 (FY 2000).

Significant Shifts

Outyear work scope has been revised to include on-site or off-site storage options for the West Valley Demonstration Project disposal-ready high-level waste canisters, including isolation of canisters in their current location inside the main plant.

The project cost at the West Valley Demonstration Project is now estimated to range from $2.5 billion to $3.5 billion, to coincide with the estimated completion date (through FY 2015) which is dependent upon the final remediation decision. When the Environmental Impact Statement/Record of Decision and decontamination and decommissioning criteria are published in May 2000, a definitive work scope, cost estimate, and schedule will be developed and validated.

Funding Schedule

(dollars in thousands)

	FY 1998	FY 1999	FY 2000	$ Change	% Change
OH-CL-01 / King Avenue Site Decontamination	5,615	1,219	1,500	281	23.1%
OH-CL-02 / West Jefferson Site Decontamination	457	5,750	5,134	-616	-10.7%
OH-CL-03 / Project Management, Site Support & Maintenance	1,677	1,563	659	-904	-57.8%
OH-MB-02-N / Main Hill Tritium (Non-Defense Funded)	992	1,003	1,000	-3	-0.3%
OH-WV-01 / HLW Vitrification and Tank Heel High Activity Waste Processing	53,000	43,800	43,100	-700	-1.6%
OH-WV-02 / Site Transition, Decommissioning & Project Completion	17,185	30,753	29,553	-1,200	-3.9%
OH-WV-03 / Spent Nuclear Fuel	1,561	2,800	4,900	2,100	75.0%
OH-WV-04 / Project Management/Site Support	42,000	30,000	29,800	-200	-0.7%
Total,	122,487	116,888	115,646	-1,242	-1.1%

Funding by Site

(dollars in thousands)

	FY 1998	FY 1999	FY 2000	$ Change	% Change
Battelle Columbus Laboratories	7,749	8,532	7,293	-1,239	-14.5%
Mound	992	1,003	1,000	-3	-0.3%
West Valley Demonstration Project	113,746	107,353	107,353	0	0.0%
Total, Ohio	122,487	116,888	115,646	-1,242	-1.1%

Metrics Summary

	FY 1998	FY 1999	FY 2000
Remedial Action/Release Site			
Assessments	0.0	0.0	1.0
Cleanups	0.0	0.0	1.0
Facility Decommissioning			
Assessments	1.0	0.0	0.0
Cleanups	1.0	0.0	1.0
Spent Nuclear Fuel			
Stable Not Disposition Ready (MTHM)	27.0	27.0	27.0
Stable, Not Disposition Ready (m^3)	11.3	11.3	11.3
Transuranic Waste (TRU)			
Storage (m^3)	528.0	532.0	536.0
High-Level Waste			
Storage (m^3)	182.0	82.0	32.0
Treated (m^3)	780.0	100.0	50.0
Canisters Produced	81.0	15.0	5.0
Mixed Low-Level Waste (MLLW)			
Storage (m^3)	149.0	147.0	142.0
Treatment (m^3)	45.0	9.0	12.0
Disposal - DOE Onsite/Commercial (m^3)	1.0	0.0	0.0
Low Level Waste (LLW)			
Storage (m^3)	16,295.0	16,240.0	16,185.0
Disposal - DOE Onsite/ Commercial (m^3)	106.0	425.0	425.0

Site Description

Columbus Environmental Management Project

The Columbus Environmental Management Project is comprised of two geographic sites (West Jefferson and King Avenue) located in and near Columbus, Ohio. Research and development work was performed at its facilities for the Department and its predecessors. The buildings are privately owned by Battelle, and the facility retains an active Nuclear Regulatory Commission license for possession of special nuclear material. Both sites are radioactively-contaminated and funded through both the Defense and Non-Defense appropriation accounts. The Columbus Environmental Management Project consists of 17 facilities and two release sites, of which 13 facilities were completed by the end of FY 1998, including all planned contaminated buildings at the King Avenue site. Independent verification of KA-7 is scheduled for FY 1999. Decontamination activities were initiated in FY 1998 and should be completed by FY 2006 at the West Jefferson site, at which time it will be returned to the private owner.

Miamisburg Environmental Management Project

The Miamisburg Environmental Management Project manages the Mound Plant which is located on 306 acres in Miamisburg, Ohio, ten miles south of Dayton. The Mound Plant was built in the late 1940's to support research and development, testing, and production activities for the Department's defense nuclear weapons complex and energy research programs. This mission continued until 1994, at which time these activities were transferred to other DOE sites. The Mound Plant mission involved production of components containing plutonium-238, polonium-210 and tritium and processed large quantities of various types of high explosives. As a result of these operations, the buildings, soil, and ground water are contaminated with radioactive and hazardous chemicals. The only remaining mission at Mound is the production of plutonium heat sources and Radioisotopic Thermoelectric Generators by the Office of Nuclear Energy primarily for NASA space missions and other customers. The Office of Nuclear Energy is in the process of deciding whether to keep this activity at Mound or to relocate it elsewhere within the DOE complex. The plant has been placed on the Environmental Protection Agency's National Priority List and a Federal Facility Agreement to effect remediation of the site has been negotiated with the Ohio and the United States Environmental Protection Agencies. The cleanup of the buildings and soil and eventual disposition of the real property at the Mound Plant will be complete by the year 2005 or earlier. The Mound Plant cleanup is predominantly funded through the Defense Environmental Management appropriation account, but also receives some funding from the Non-Defense appropriation account. The only Non-Defense environmental remediation currently being conducted at the Mound Plant is the decontamination of areas within the Semi-Works Cave resulting from radionuclide recovery activities; it is scheduled to be completed by FY 2001.

West Valley Demonstration Project

The West Valley Demonstration Project is located at the Western New York Nuclear Service Center near West Valley, New York. The Center was developed by a private company with government support to process commercial spent nuclear fuel to extract plutonium and uranium and operated from 1966 to 1972.

The West Valley Demonstration Project includes all the activities undertaken to carry out high-level waste solidification, including: (1) preparation of the Western New York Nuclear Service Center's premises and facilities to accommodate the solidification project, including decontamination of existing facilities and equipment; (2) removal of the waste from underground storage tanks; (3) development, design, construction, and operation of systems and necessary supporting facilities for the solidification of waste; (4) acquisition of containers for permanent disposal of the solidified waste; (5) temporary storage of the solidified waste, followed by transportation to an appropriate Federal repository for permanent disposal; (6) decontamination and decommissioning of the waste tanks and facilities, material and hardware used in carrying out the solidification of the wastes; and (7) disposal of low-level and transuranic wastes produced from project activities.

The principal operation at West Valley is currently the solidification of approximately 2,200 m^3 of liquid high-level waste into borosilicate glass using vitrification. The primary vitrification campaign began in June 1996 and was completed in June 1998. Vitrification of the high-level waste tank heels is underway and will continue through FY 2001.

In preparation for initiating the vitrification program, the entire inventory of liquid high-level waste was pretreated between 1988 and 1995. This processing produced 20,000 drums containing low-level waste liquid stabilized in cement. These drums are being temporarily stored on-site pending a decision on permanent disposal relative to the Record of Decision for project completion.

Following the vitrification of the high-level waste, the buildings and other facilities will be decontaminated and decommissioned, based on the results of an Environmental Impact Statement and Record of Decision for the completion of the project. This phase of the cleanup project is expected to begin in late FY 2000. The project cost is estimated to range from $2.5 billion to $3.5 billion, to coincide with the estimated completion date (through FY 2015 dependent upon the Environmental Impact Statement/Record of Decision). This estimate will be refined after the Environmental Impact Statement/Record of Decision is published.

Another critical element of the EM program at West Valley is the safe management of 125 spent nuclear fuel elements which are stored at the site. Environmental Management will continue surveillance and maintenance of the spent fuel facility to ensure safe storage until the fuel can be shipped to the Idaho National Engineering and Environmental Laboratory (currently planned for 2001).

Achieving project completion depends upon the Department's ability to implement the decisions made in the Environmental Impact Statement Record of Decision, as well as early identification of receiver sites and stakeholder agreements to accept West Valley Demonstration Project high-level waste and transuranic waste, and on funding support at the level which was the basis of the June 1998 *Accelerating Cleanup: Paths to Closure* document. The New York State Energy Research and Development Authority and DOE are formulating a preferred alternative for project completion and closure or long-term management of the site that incorporates stakeholders' input, including the Citizens Task Force's recommendations. Selection of a preferred alternative and subsequent Record of Decision will determine final disposition of the wastes and facilities at the West Valley site and allow for the return of the site to New York State.

Detailed Program Justification

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
The Ohio projects are managed through incentivized contracts and utilize fixed-price subcontracts to assure the most efficient service to the Government. This scope planned for FY 2000 has been reviewed and is consistent with the goals of the site as outlined in the *Accelerating Cleanup: Path to Closure*. The Ohio projects included in this section of the budget have had independent reviews of their baseline scopes and costs. The scope and funding requested for FY 2000 are consistent with the activities that have been reviewed.			
OH-CL-01 / King Avenue Site Decontamination			
Decontamination of the King Avenue site was completed in FY 1998.			
# Completion of Building KA-7 underground drain removal and associated work.			
# Completion of external area final surveys.			
# Final independent verification surveys and report.			
OH-CL-01	5,615	1,219	1,500

Metrics			
Remedial Action/Release Sites			
Assessments	0.0	0.0	1.0
Cleanups	0.0	0.0	1.0
Facility Decommissioning			
Assessments	1.0	0.0	0.0
Cleanups	1.0	0.0	1.0

OH-CL-02 / West Jefferson Site Decontamination

This project involves facility decommissioning at the West Jefferson site including the Hot Cell area from the retired reactor research facility, which requires quality assurance, waste management, and health and safety support during decommissioning. Upon completion, buildings will be demolished and grounds will be returned to Battelle for reuse without radiological restriction.

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
# Continue transuranic waste volume reduction utilizing the Sonatol system and associated decontamination operations of the West Jefferson buildings which include material and equipment removal; continue health and safety support, and emergency preparedness. Initiate decontamination operations within JN-2 (Critical Assembly Building) and JN-3 (Reactor Building), and on the external areas, as funding permits, in order to balance radiation dose to workers.			
OH-CL-02	457	5,750	5,134

Metrics

This project has associated corporate performance measures; however, no measures are reportable in the three year budget profile.

OH-CL-03 / Project Management, Site Support & Maintenance

The scope of this project is to provide technical support to the field work involved in the two decontamination projects, (King Avenue and West Jefferson sites), including surveillance and maintenance, project management and regulatory compliance.

# Continue to provide required core environmental and surveillance and maintenance activities, including facility structural/hazard analysis of major building systems.			
# Provide program management support, including public affairs, regulatory compliance, quality assurance, and project management.			
OH-CL-03	1,677	1,563	659

Metrics

No quantifiable corporate performance measures are associated with this project.

OH-MB-02-N / Main Hill Tritium (Non-Defense Funded)

This project provides for the safe shutdown, dismantlement, and decontamination of the Semi-Works Cave area.

# Primary activities include equipment disposition and waste removal.			
OH-MB-02-N	992	1,003	1,000

(dollars in thousands)

FY 1998	FY 1999	FY 2000

Metrics
No quantifiable corporate performance measures are associated with this project.

OH-WV-01 / High-Level Waste Vitrification and Tank Heel High Activity Waste Processing

The high-level waste program at West Valley encompasses the solidification of approximately 2200 m^3 of liquid high-level waste into borosilicate glass using vitrification. Liquid high-level waste vitrification operations were initiated in June 1996, and the primary vitrification campaign was completed in the third quarter of FY 1998. This represents a significant achievement for DOE and a critical activity toward completion of the West Valley Demonstration Project Act. After high-level waste liquid processing, the project will continue to use vitrification to process the high-level waste tank heels and residual high activity waste. Planning and preparatory work is currently underway, and vitrification is continuing. There is a high base cost to operate and maintain the vitrification process and the innovative technology for tank heels extraction adds to the cost. This activity, including the deactivation of the vitrification processing facility, will continue into FY 2002.

- **#** Continue operation of vitrification facility to treat approximately 50 m^3 of high-level waste tank heels and residuals, reducing the remaining inventory to 32 m^3 and resulting in production of approximately 5 canisters of high-level waste.
- **#** Operate tank farm in support of vitrification.
- **#** Install high-level waste tank heel removal equipment (equipment and pump modifications).
- **#** Finalize strategies for completion of vitrification and cutoff of effluents to tanks and facilities used for vitrification.

OH-WV-01	53,000	43,800	43,100

Metrics			
High-Level Waste (m^3)			
Storage	182.0	82.0	32.0
Treatment	780.0	100.0	50.0

(dollars in thousands)

FY 1998	FY 1999	FY 2000

OH-WV-02 / Site Transition, Decommissioning, & Project Completion

These activities are required to remove high-level waste canisters and transuranic waste from project facilities, dispose of low level waste in accordance with the West Valley Demonstration Project Act and Stipulation of Compromise as directed by the Record of Decision, implementation of other related activities associated with the Record of Decision, and completion of the remaining project responsibilities and return the site to New York State. The State of New York and DOE are working together to formulate a preferred alternative with input from the public, including the Citizens Task Force. The subsequent Record of Decision will provide the decision to implement the preferred alternative. Outyear work scope has been revised to include modifications to existing canister storage location in the main process building or investigation of other storage options. These activities run concurrently with high-level waste vitrification processing and tank residual high activity waste processing with estimated completion through FY 2015 dependent upon Environmental Impact Statement/Record of Decision alternative selected.

- # Continue to safely store disposal-ready high-level waste canisters.
- # Continue environmental monitoring.
- # Operate site safely and compliantly.
- # Complete Remote Handled Waste Facility design.
- # Address Supplement to the Draft Environmental Impact Statement comments and issue Final Environmental Impact Statement for public review.
- # Issue Environmental Impact Statement Record of Decision.
- # Develop Record of Decision implementation plan and initiate cost/schedule baseline development for West Valley Demonstration Project Completion.
- # Continue sitewide radwaste classification program (for low-level and transuranic waste).
- # Continue canister ship-out design efforts; investigate storage options.
- # Continue limited low-level waste disposal activities.

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
# Initiate activities, at a reduced level, for removal of Spent Nuclear Fuel debris from the Head End Cells of the main plant.			
OH-WV-02	17,185	30,753	29,553

Metrics			
High-Level Waste (cn)			
Canisters Produced	81.0	15.0	5.0
Low-Level Waste (m^3)			
On-Site/Commercial Disposal	106.0	425.0	425.0
Storage	16,295.0	16,240.0	16,185.0
Mixed Low-Level Waste (m^3)			
On-Site/Commercial Disposal	1.0	0.0	0.0
Storage	149.0	147.0	142.0
Treatment	45.0	9.0	12.0
Transuranic Waste (m^3)			
Storage	528.0	532.0	536.0

OH-WV-03 / Spent Nuclear Fuel

The Fuel Receiving and Storage Facility at West Valley contains 125 irradiated commercial spent nuclear fuel elements that must be transferred off-site during calendar year 2001 (per agreement with the State of Idaho and the State of New York). In FY 2000, complete the transition from maintaining safe storage of spent nuclear fuel to readying the fuel and systems; maximum safety; initiate shipment to Idaho National Engineering and Environmental Laboratory in 2001 to avoid penalties and court action by New York State regulators.

- # Complete upgrades for the rail spur.
- # Staff and train fuel handling and cask loading crews.
- # Maintain safe storage of fuel and inspect spent nuclear fuel in preparation for shipment.
- # Complete training of crews for fuel handling and cask unloading at Idaho National Engineering and Environmental Laboratory and complete readiness assessments for transportation and receipt of the West Valley Demonstration Project -Spent Nuclear Fuel.

OH-WV-03	1,561	2,800	4,900

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
Metrics			
Spent Nuclear Fuel			
Not Disposal Ready (MTHM)	27.0	27.0	27.0
Not Disposal Ready (m^3)	11.3	11.3	11.3

OH-WV-04 / Project Management/Site Support

This project provides for management of basic facilities, equipment, installations, and related services essential for occupation and operation of the site. This includes roads, utilities, environmental monitoring, analytical laboratories, safeguards and security, offices, warehouses, corrective maintenance, and preventive maintenance. It also includes technical support and contract expertise in evaluating waste management activities. It includes activities related to strategic planning, information activities, and field management. Also included are preparation of project baseline summaries, risk data sheet documentation, integrated priority lists, site-wide technical baselines, facility plans, system engineering, and complex-wide plans.

- **#** Continue facility management and maintenance, radiological control programs, industrial health and safety programs, logistics support, environmental monitoring, administration of laboratories, and administration of the quality assurance program.
- **#** Continue security and safeguards, training, procurement, accounting, legal, records management, public information, human resources, program control administration, and management information services.

OH-WV-04	42,000	30,000	29,800

Metrics
No quantifiable corporate performance measures are associated with this project.

Total, Ohio	122,487	116,888	115,646

Explanation of Funding Changes from FY 1999 to FY 2000

	FY 2000 vs. FY 1999 ($000)
OH-CL-01 / King Avenue Site Decontamination	
# Increase is needed to support completion of Building KA-7 underground drain removal and associated work and final surveys and report.	281
OH-CL-02 / West Jefferson Site Decontamination	
# This site is split funded between the Non-Defense and Defense activities. As the Non-Defense preparation work for decommissioning decreases the defense activities increase.	-616
OH-CL-03 / Project Management, Site Support & Maintenance	
# There is a correlation between Non-Defense and Defense support needed in relation to the type of work being supported; decrease in scheduled work to be performed under the Non-Defense Appropriation.	-904
OH-MB-02-N / Main Hill Tritium (Non-Defense Funded)	
# Funding level is essentially stable.	-3
OH-WV-01 / High Level Waste Vitrification and Tank Heel High Activity Waste Processing	
# Decrease is due to elimination of development and deployment of oxalic acid wash technology, which was for residual waste removal from the high-level waste tanks. . .	-700
OH-WV-02 / Site Transition, Decommissioning & Project Completion	
# Decrease reflects deferral of procurement and construction activities for the Remote Handled Waste Facility and the high-level waste Canister Ship-out Facility.	-1,200
OH-WV-03 / Spent Nuclear Fuel	
# Spent Nuclear Fuel Shipment from West Valley Demonstration Project to Idaho National Engineering and Environmental Laboratory is scheduled to occur in FY 2001. The additional funding in FY 2000 is to continue safe storage of the fuel, as well as ready the fuel and systems to begin shipments. Examples of the types of activities include cask certification, procurement of materials and equipment, training of fuel handlers, verification of procedures, and line management self assessment. The 1.8 mile rail spur which services the West Valley Demonstration Project will also be upgraded.	2,100
OH-WV-04 / Project Management/Site Support	
# Funding level essentially stable with a slight decrease due to the continued emphasis on cost effectiveness improvement and productivity enhancement through labor reductions for support categories; reductions in computer software support.	-200
Total Funding Change, Ohio	-1,242

Site/Project Completion

Program Mission

The Non-Defense Site/Project Completion account provides funding for projects that are expected to be completed by FY 2006 at sites or facilities where a Department of Energy (DOE) mission will continue (e.g., environmental management or scientific research) beyond FY 2006. Hence, this account focuses on the completion of specific Environmental Management (EM) projects at sites with expected enduring missions.

This account includes projects and sites under the following operations offices: Albuquerque, Chicago, Idaho, Oakland, and Richland. In a limited number of cases, sites have been placed in the Site/Project Completion account even though there is no expectation of a continuing mission after cleanup is completed. In these instances, use of the Site Closure account would have created an additional appropriation control for an Operations/Field office with a limited amount of associated funding, thereby hindering managerial flexibility in the execution of projects at these sites.

Program Goal

The FY 2000 budget request will enable the EM program to continue its goal of completing its cleanup mission at as many sites as possible by 2006. This goal is part of the strategies identified in the *Accelerating Cleanup: Paths To Closure* document, whereby EM sites are working aggressively to reduce outyear costs by completing projects as soon and as efficiently as possible, thereby reducing life-cycle costs and schedules.

Program Objective

- To continue environmental cleanup projects that are expected to be completed by 2006 at EM sites where overall site cleanup will not be fully accomplished by 2006.
- To continue environmental cleanup projects at DOE sites where all EM projects are expected to be completed by 2006 (except for long-term stewardship activities), but where there will be a continuing federal workforce at the site to carry out enduring non-EM missions, such as nuclear weapons activities or scientific research, and the necessary waste management activities to handle newly generated wastes from these missions.

Performance Measures

The Office of Environmental Management has moved aggressively towards developing and implementing a performance-based budget that clearly demonstrates the program and project results expected for the resources requested. Building upon past experience, the FY 2000 budget was enhanced by aligning performance measures by project within the specific appropriation and program accounts. These performance measures can be found in the site details that follow.

Significant Accomplishments and Program Shifts

The FY 2000 budget request fully reflects the project-oriented structure that EM has developed as a key component of the effort to accelerate cleanup and reduce costs. All EM activities have been organized into projects which have a defined scope, schedule, cost, and end state. Through the strategies identified in the *Accelerating Cleanup: Paths to Closure* document, EM sites are working to sequence projects and track progress, thereby reducing life-cycle costs and schedules. Specific accomplishments and program shifts may be found in the site details that follow.

Funding Profile

(dollars in thousands)

	FY 1998	FY 1999	FY 2000	$ Change	% Change
Albuquerque Operations Office	789	478	481	3	0.6%
Chicago Operations Office	45,279	54,063	54,100	37	0.1%
Idaho Operations Office	7,501	10,027	9,208	-819	-8.2%
Oakland Operations Office	39,065	34,894	35,659	765	2.2%
Richland Operations Office	19,053	1,863	1,418	-445	-0.5%
Total, Site/Project Completion, Non-Defense	111,687	101,325	100,866	-459	-0.5%

Public Law Authorization:

Public Law 105-245, “The Energy and Water Development Appropriations Act, 1999"

Public Law 95-91, “Department of Energy Organization Act (1977)”

Public Law 103-62, “Government Performance and Results Act of 1993"

Albuquerque

Mission Supporting Goals and Objectives

Mission

The mission of the Non-Defense Environmental Management (EM) Site/Project Completion program, managed through the Albuquerque Operations Office, is to support activities at one site in one state, the Lovelace Biomedical and Environmental Research Institute, formerly the Inhalation Toxicology Research Institute, in New Mexico.

Program Goal

The Lovelace Biomedical and Environmental Research Institute currently operates under a cooperative agreement with the Department of Energy. The goal is to continue to support treatment, storage, and disposal of newly generated waste in support of the Department's mission-related work. At this time, the Office of Science, the landlord, is considering transition of waste management activities into the landlord program.

Program Objective

Until the transition to landlord occurs, the Albuquerque program objective is to manage generated waste, including the treatment, storage, and disposal of low-level waste, mixed low-level waste, transuranic, and hazardous wastes; support program management activities for the waste management/environmental restoration programs; and continue groundwater surveillance and monitoring. It is assumed that the cooperative agreement will remain in place until FY 2006.

Performance Measures

Performance Measures are provided at an aggregate level after the Funding by Site table, as well as at a project level, in the Detailed Program Justification.

Significant Accomplishments and Program Shifts

- Shipped small quantities of transuranic waste to Sandia National Laboratory for interim storage pending regulatory changes that would permit disposal at the Waste Isolation Pilot Plant.

Funding Schedule

(dollars in thousands)

	FY 1998	FY 1999	FY 2000	$ Change	% Change
AL-005 / Lovelace Biomedical and Environmental Research Institute	789	478	481	3	0.6%
Total, Albuquerque	789	478	481	3	0.6%

Funding By Site

(dollars in thousands)

	FY 1998	FY 1999	FY 2000	$ Change	% Change
Lovelace Biomedical and Environmental Research Institute	789	478	481	3	0.6%
Total, Albuquerque	789	478	481	3	0.6%

Metrics Summary

	FY 1998	FY 1999	FY 2000
Transuranic Waste			
Storage (m^3)	0.3	0.3	0.3
Low-Level Waste			
Treatment (m^3)	9.0	30.0	30.0
Shipped to DOE Disposal Site (m^3)	63.0	0.0	0.0
Hazardous Waste			
Disposed On-Site/Commercial (MT)	4.5	5.0	4.0

Site Description

Lovelace Biomedical and Environmental Research Institute

The Lovelace Biomedical and Environmental Research Institute is located on Kirtland Air Force Base in Albuquerque, New Mexico. The site currently operates under a cooperative agreement with the Department of Energy doing biomedical research. All of the environmental restoration sites have been cleaned up. Monitoring and surveillance of the sites continue to support closure and to monitor the reduction of nitrates in groundwater beneath the former wastewater lagoons. The Waste Management Program manages hazardous, low-level radioactive, mixed, transuranic, and non-hazardous biomedical wastes generated from on-going DOE research activities in an efficient and environmentally sound manner.

Detailed Program Justification

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
AL-005 / Lovelace Biomedical and Environmental Research Institute			
This project provides compliant waste management for biomedical research waste and environmental restoration groundwater monitoring and surveillance.			
# Continue providing support for the compliant treatment, storage, and disposal of transuranic, mixed low-level waste, and low-level waste; and continue groundwater surveillance and monitoring.			
AL-005	789	478	481
Metrics			
Transuranic Waste			
Storage (m^3)	0.3	0.3	0.3
Low-Level Waste			
Treatment (m^3)	9.0	30.0	30.0
Shipped to DOE Disposal Site (m^3)	63.0	0.0	0.0
Hazardous Waste			
Disposed On-site/Commercial (MT)	4.5	5.0	4.0
Total, Albuquerque	789	478	481

Explanation of Funding Changes from FY 1999 to FY 2000

	FY 2000 vs. FY 1999 ($000)
AL-005 / Lovelace Biomedical and Environmental Research Institute	
# Essentially stable funding is provided, as inflationary cost increase is offset by workscope reduction	3
Total Funding Change, Albuquerque	3

Chicago

Mission Supporting Goals and Objectives

Mission

The mission of the Non-Defense Environmental Management (EM) Site/Project Completion program carried out by the Chicago Operations Office, is to direct and manage EM activities at seven sites in five states. These sites include the Ames Laboratory in Iowa; the Argonne National Laboratory-East, Site A and Fermi National Accelerator Laboratory in Illinois; the Argonne National Laboratory-West in Idaho; Princeton Plasma Physics Laboratory in New Jersey; and the Brookhaven National Laboratory in New York.

The primary mission of the facilities under the Chicago Operations Office is research, development, and demonstration for DOE's Office of Science and Nuclear Energy programs. This includes support of the nation's advanced reactor program and research on the fundamental properties of matter, physics, life and environmental sciences; magnetic confinement fusion and high-energy physics. The two components of the Chicago Environmental Management Program are environmental restoration and waste management. Environmental restoration activities managed by the Chicago Operations Office include the management of groundwater, soil and debris contaminated with radionuclides and/or hazardous substances.

The Chicago environmental restoration strategy focuses on maximizing near-term site completions, optimizing the sequencing of work and accelerating schedules. This strategy has proven to be successful in that environmental restoration activities at Chicago sites, such as Site A and Ames have been completed, allowing allocated funding to be devoted to fewer remaining sites. For the waste management activities, Chicago's strategy continues to be focused upon the disposition of legacy waste inventories, cost-effective waste handling, and pollution prevention programs designed to reduce and minimize the generation of new waste. This strategy has been successful. Waste inventories, generated in decades past and stockpiled at Chicago sites, have been dramatically reduced in the past several years, thereby reducing storage costs and risk.

Waste management responsibilities have been transferred to the Office of Science for Fermi National Accelerator Laboratory, and to the Office of Nuclear Energy for Argonne National Laboratory-West. Management and funding for surveillance and maintenance at Site A/Plot M in Illinois, the Hallam site in Nebraska, and the Piqua site in Ohio have been transferred to the Long Term Surveillance and Maintenance program, which is managed by the Grand Junction Project Office in Colorado.

Program Goal

The goal of the Chicago Operations Office and the EM program is to complete remediation of all Chicago sites by 2006, and to transfer management of all newly-generated waste from ongoing operations back to the generator. There is expected to be no EM funding for Chicago sites beyond 2006. Chicago is pursuing waste management initiatives to reduce and contain costs, and to enhance productivity.

Program Objectives

The EM objective at the Chicago Operations Office is to manage the risks associated with sites contaminated with various hazardous and radioactive materials. This includes responsibility for the assessment and remediation of contaminated sites and facilities; characterization, treatment, minimization, storage and disposal of hazardous and radioactive waste; development, demonstration, testing, and evaluation of new cleanup technologies; environmental safety; and completion of decontamination and decommissioning of surplus facilities in the current EM baseline. The Chicago Operations Office proactively employs innovative and alternative technologies, wherever appropriate and applicable, to address remedial, as well as decontamination and decommissioning problems, in order to reduce cost, risk, and to improve the schedule.

Environmental restoration activities at Chicago will be complete at all sites except Argonne National Laboratory-East, Argonne National Laboratory-West and Brookhaven National Laboratory by the end of FY 1999. Discussions are underway with the DOE's Office of Science regarding the transfer of continuing surveillance and monitoring activities at the Princeton Plasma Physics Laboratory Site C/D. Remediation activities will continue under the Brookhaven National Laboratory Interagency Agreement/Federal Facilities Agreement, the Argonne National Laboratory-West Federal Facility Agreement/Consent Order and the Argonne National Laboratory-East Resource Conservation and Recovery Act Part B Corrective Action permit. Waste management activities at Chicago are designed to ensure minimization, safe handling, collection, storage, treatment and disposal of waste for generators at Ames, Argonne National Laboratory-East, Brookhaven National Laboratory, and Princeton Plasma Physics Laboratory. The main types of waste associated with these facilities are low-level waste, mixed low-level, hazardous, and transuranic waste.

Performance Measures

Performance Measures are provided at an aggregate level after the Funding by Site table, as well as at a project level, in the detailed program justification.

Significant Accomplishments and Program Shifts

- At Brookhaven National Laboratory assessment activities included: (1) completion of five release site assessments associated with the Sewage Treatment Plant and Peconic River landfills and groundwater; and (2) continuation of site-wide characterization activities. Remediation activities included: (1) completion of nine release sites, (2) continuation of waste disposal from 55 buried waste pits, (3) completion of drinking water hookups for over 1,500 offsite residences from FY 1996 through FY 1998, (4) continuation of groundwater treatment activities, (5) continued remediation of the Central Steam Facility, and (6) begin design and construction of innovative technology of in-well air sparging for off-site groundwater remediation. This technology will provide a substantially less invasive presence off-site on non-DOE owned property and is expected to reduce long-term operation and maintenance costs compared to pump and treat technology. Packaging, transportation, and off-site processing of boneyard removals will be partially accomplished (FY 1998). At Brookhaven National Laboratory, site-wide characterization activities will be completed and Graphite Reactor characterization activities will be undertaken. Remedial actions include completion of two release sites and continuation of remediation of operable units/removal actions including the Central Steam Facility, waste management areas, and the groundwater. Packaging, transportation, and off-site processing of boneyard waste removals at the old Hazardous Waste Management Facility will continue (FY 1999).

- Performed all necessary activities to compliantly treat, store, and dispose all applicable waste types at Brookhaven National Laboratory (FY 1998) and will continue to perform these activities (FY 1999).

- At Brookhaven National Laboratory, continue on-site groundwater treatment systems and soil vapor extraction systems; initiate soil excavation and disposal; complete construction of additional off-site groundwater treatment system; initiate remediation of Peconic River sediments; store, treat, and dispose of low-level, hazardous and mixed waste; treat and dispose of additional legacy waste (FY 2000).

- At Argonne National Laboratory-East, the field work associated with the 317 Area French Drain continued. Remaining remedial actions work involved the completion of two release site assessments and demonstration of soil-mixing technology. Performed all necessary activities to compliantly treat, store, and dispose all applicable waste types at Argonne National Laboratory-East. Completed construction of one line-item project (Waste Management Facility Upgrade) at Argonne National Laboratory-East (FY 1998). At Argonne National Laboratory-East, remedial actions effort will continue and one release site will be completed. Decontamination and decommissioning activities include continuing decontamination and decommissioning of the Chicago Pile-5 reactor and beginning decontamination and decommissioning of 60 inch Cyclotron. Perform all necessary activities to compliantly treat, store, and dispose all applicable waste types at Argonne National Laboratory-East (FY 1999).

- At Argonne National Laboratory-East, continue corrective actions including capping in place and engineered barriers; complete decontamination and decommissioning of the 6-inch Cyclotron Reactor and the Chicago Pile-5 Reactor; initiate decontamination and decommissioning of the Zero Power and Juggernaut Reactors; store, treat, and dispose of mixed, low-level and hazardous waste; collect, store, and treat transuranic waste (FY 2000).
- At Argonne National Laboratory-West, assessment of eight release sites and one facility was accomplished, as well as the completion of three release sites and one facility. Bench scale testing of an innovative technology, phytoremediation, was completed for remediation of remaining Waste Area Group 9 facilities. Facility decommissioning of the Central Liquid Waste Processing Area was completed. Waste management responsibilities were transferred to the Office of Nuclear Energy at the end of FY 1997. At Argonne National Laboratory-West, the two year validation of innovative technology (phytoremediation) for the Waste Area Group 9 site will begin (FY 1999).
- At Argonne National Laboratory-West, continue final remedial action (soil treatment) (FY 2000).
- At Princeton Plasma Physics Laboratory, activities were conducted to assess and reduce risk and comply with the Memorandum of Understanding between the New Jersey Department of Environmental Protection and Princeton University. This included assessment and completion of all eight release sites at Sites C/D. In addition to normal waste operations, low-level waste generated included materials from Tokamak Fusion Test Reactor caretaking operations being performed by the Office of Science. It is anticipated that the quantity of waste will remain consistent with historical levels because of the construction and facility preparations for the National Spherical Tokamak Experiment. Performed all necessary activities to compliantly treat, store, and dispose all applicable waste types at Princeton Plasma Physics Laboratory (FY 1998). At Princeton Plasma Physics Laboratory restoration activities consist of long-term groundwater monitoring. The major waste operations focus will be on disposal of materials from the Tokamak Fusion Test Reactor caretaking operations. In addition, operations of the National Spherical Tokamak Experiment are scheduled to begin. Perform all necessary activities to compliantly treat, store, and dispose all applicable waste types at Princeton Plasma Physics Laboratory (FY 1999).
- At Princeton Plasma Physics Laboratory, conduct surveillance and monitoring of the Site C/D; safely and compliantly store, treat, and dispose of hazardous waste and low-level waste (FY 2000).
- Potentially responsible party payments will be made against DOE's portion of Princeton University Site A/B remediation costs as a Potentially Responsible Party (FY 1999).
- At Princeton Plasma Physics Laboratory, conduct surveillance and monitoring of the Site C/D; safely and compliantly store, treat, and dispose of hazardous waste and low-level waste (FY 2000).
- At Ames, remediation activities (other than continued low levels of surveillance and monitoring) were completed. Performed all necessary activities to compliantly treat, store, and dispose all applicable waste types at Ames (FY 1998), and will continue to perform these waste management activities (FY 1999).
- At Ames Laboratory, store, treat and dispose of transuranic, mixed, and low-level waste (FY 2000).

Funding Schedule

(dollars in thousands)

	FY 1998	FY 1999	FY 2000	$ Change	% Change
CH-AMESWO / AMES Waste Operations	260	306	260	-46	-15.0%
CH-ANLEDD / Argonne National Laboratory-East Decontamination and Decommissioning Actions	570	5,732	6,898	1,166	20.3%
CH-ANLEPM / Argonne National Laboratory-East Program Management	657	572	763	191	33.4%
CH-ANLERA / Argonne National Laboratory-East Remedial Actions	3,290	3,644	4,500	856	23.5%
CH-ANLEWO / Argonne National Laboratory-East Waste Operations	7,251	8,222	7,600	-622	-7.6%
CH-ANLWRA / Argonne National Laboratory-West Remedial Actions	2,030	1,142	809	-333	-29.2%
CH-ANLWWO / Argonne National Laboratory-West Waste Operations	1,600	0	0	0	0.0%
CH-BRNLBYW / Brookhaven National Laboratory Boneyard Waste	1,801	1,151	2,787	1,636	142.1%
CH-BRNLDD / Brookhaven National Laboratory Decontamination and Decommissioning	143	3,023	130	-2,893	-95.7%
CH-BRNLPM / Brookhaven National Laboratory Program Management	3,393	3,503	3,647	144	4.1%
CH-BRNLRA / Brookhaven National Laboratory Remedial Actions	15,263	14,906	14,901	-5	0.0%
CH-BRNLWO / Brookhaven National Laboratory Waste Operations	5,537	7,418	8,088	670	9.0%
CH-CHOOPUAB / Princeton Site A/B Payments	153	504	644	140	27.8%
CH-COPS / Chicago Operations Program Support	41	597	0	-597	-100.0%
CH-PPPLRA / Princeton Plasma Physics Laboratory Remedial Actions	424	351	273	-78	-22.2%
CH-PPPLWO / Princeton Plasma Physics Laboratory Waste Operations	2,866	2,992	2,800	-192	-6.4%
Total, Chicago	45,279	54,063	54,100	37	0.1%

Funding By Site

(dollars in thousands)

	FY 1998	FY 1999	FY 2000	$ Change	% Change
AMES Laboratory (Iowa State University) (IA)	260	306	260	-46	-15.0%
Argonne National Laboratory-East (IL)	11,768	18,170	19,761	1,591	8.8%
Argonne National Laboratory-West (ID)	3,630	1,142	809	-333	-29.2%
Brookhaven National Laboratory (NY)	26,137	30,001	29,553	-448	-1.5%
Chicago Operations Office (IL)	194	1,101	644	-457	-41.5%
Princeton Plasma Physics Laboratory (NJ)	3,290	3,343	3,073	-270	-8.1%
Total, Chicago	45,279	54,063	54,100	37	0.1%

Metrics Summary

	FY 1998	FY 1999	FY 2000
Remedial Action/Release Sites			
Assessments	24.0	14.0	5.0
Cleanups	20.0	8.0	14.0
Facility Decommissioning			
Assessments	23.0	0.0	1.0
Cleanups	8.0	2.0	11.0
Transuranic Waste			
Storage (m^3)	90.0	92.1	94.2
Treatment (m^3)	11.2	85.2	85.2
Shipped to DOE Disposal Site (m^3)	0.0	2.3	2.3
Mixed Low-Level Waste			
Storage (m^3)	154.8	157.0	152.8
Treatment (m^3)	40.7	30.5	30.5
Disposed On-site/Commercial (m^3)	2.6	11.1	17.5
Low-Level Waste			
Storage (m^3)	334.1	213.6	80.6
Treatment (m^3)	619.0	1,053.4	1,051.4
Disposed On-site/Commercial (m^3)	118.0	173.6	227.7
Shipped to DOE Disposal Site (m^3)	424.7	573.8	491.9

Site Description

AMES Laboratory (Iowa State University)

Ames Laboratory is an Energy Research laboratory in Ames, Iowa that conducts basic and applied research in the preparation, characterization, and evaluation of properties of metals and their alloys, especially rare earth metals. Ames Laboratory also performs materials research, high-performance computing, and environmental research. It seeks solutions to energy-related problems through the exploration of physics, chemistry, engineering, applied mathematics, and materials sciences.

Argonne National Laboratory-East

Argonne National Laboratory-East is a research laboratory occupying a 700 acre tract of land located approximately 22 miles southwest of downtown Chicago in DuPage County, Illinois. It is an Office of Science multidisciplinary research and development laboratory that conducts basic and applied research to support the development of energy-related technologies. Energy-related research projects include safety studies for light-water reactors, developing components and materials for fission and fusion reactors, superconductivity research, improvements in coal power, synchrotron radiation sources, and waste heat utilization. Further research includes medical radioisotope technology, environmental research, genetics research, materials engineering, ceramics, carcinogenesis, and the biological effects of ionizing radiation. Argonne-East is the home for the Advanced Photon Source Facility, which provides experiment capability with the use of photons for industry, government, and academic scientists to create advances in pharmaceuticals, adhesives, food processing, and many other applications.

Argonne National Laboratory-West

The Argonne National Laboratory-West site is located 35 miles west of Idaho Falls, Idaho, and is operated by the University of Chicago under the direction of the Chicago Operations Office. The site was constructed for the purpose of carrying out research and development for liquid metal fast breeder reactor technology. All remediation activities, except for continued implementation of the selected remedy, are projected to be complete at Argonne National Laboratory-West by the end of FY 2000. Beginning in FY 1998, the responsibility for managing newly generated waste, as part of the reengineering pilot program, was transferred to DOE's Office of Nuclear Energy. The current mission for Argonne National Laboratory-West includes technology development for spent nuclear fuel and radioactive waste treatment, reactor and fuel cycle safety, and closure of the Integral Fast Reactor Program. These activities are administered through the Office of Nuclear Energy.

Brookhaven National Laboratory

The Brookhaven National Laboratory site is a multi-purpose research and development laboratory located in central Suffolk County on Long Island, about 60 miles east of New York City. Brookhaven National Laboratory's current mission is to conduct fundamental research, including conception, design, construction, and operation of large complex research facilities. These facilities are used for both basic and applied research in high energy and nuclear physics; in basic energy sciences emphasizing fundamental research on biological, chemical, and physical phenomena underlying energy-related transfer, conversion and storage systems; in life sciences; and in nuclear medical applications of nuclear techniques. The DOE Office of Science also provides funding for Brookhaven National Laboratory cleanup activities.

Princeton Plasma Physics Laboratory

The Princeton Plasma Physics Laboratory in Princeton, New Jersey, is a single purpose laboratory focusing on research and development for fusion energy programs. The Laboratory is engaged in a broad spectrum of plasma physics research ranging from the theoretical analysis and modeling of fusion plasmas to the laboratory testing of plasmas approaching the conditions necessary for an energy producing fusion reactor.

Detailed Program Justification

(dollars in thousands)

FY 1998	FY 1999	FY 2000

The Chicago EM program makes extensive use of firm fixed-price subcontracts and other subcontracting mechanisms, such as basic ordering agreements and time and material subcontracts, to assure the most cost-effective services to the Government.

The scope planned for FY 2000 has been reviewed and is appropriate to meet the goals of the site as outlined in *Accelerating Cleanup: Paths to Closure*. The two major environmental restoration programs at Argonne National Laboratory-East and Brookhaven National Laboratory have had independent cost reviews by the Army Corps of Engineers and are baselined and under formal change control procedures. Waste management activities have baselines established for a seven year period. In addition, there have been independent reviews of current year work plans, and benchmarking of hazardous waste management operations against commercial research operations to identify best practices.

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
CH-AMESWO / AMES Waste Operations			
This project performs all necessary activities to safely and compliantly store, treat, and dispose of waste. These activities are essential for the ongoing Office of Science program mission.			
# Safely and compliantly store, treat, and dispose each waste type in quantities as provided in the metrics table below.			
CH-AMESWO	260	306	260
Metrics			
Transuranic Waste			
Storage (m^3)	0.0	0.1	0.2
Low-Level Waste			
Storage (m^3)	3.6	1.0	0.0
Treatment (m^3)	0.0	7.0	5.0
Disposed On-site/Commercial (m^3)	0.0	7.0	5.0
CH-ANLEDD / Argonne National Laboratory-East Decontamination and Decommissioning Actions			
This project conducts facility decontamination and decommissioning activities.			
# Complete decontamination and decommissioning of the 60 inch Cyclotron Reactor.			
# Complete decontamination and decommissioning of the Chicago Pile-5 Reactor.			
# Initiate characterization for decontamination and decommissioning of Zero Power, and Juggernaut Reactors.			
CH-ANLEDD	570	5,732	6,898
Metrics			
Facility Decommissioning			
Assessments	22.0	0.0	1.0
Cleanups	7.0	2.0	11.0

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
CH-ANLEPM / Argonne National Laboratory-East Program Management			
This project provides program management support activities to provide a safe and effective environmental management program to reduce environmental and health risks, including support of compliance, quality, safety and health, project technical support including technology application, sample and data management, design support, and project and program support.			
# Continue support to the Argonne National Laboratory-East Remedial Action and Decontamination/Decommissioning programs, including cost and schedule plans and reporting; stakeholder and regulatory interactions, budget preparation; and data calls.			
CH-ANLEPM	657	572	763

Metrics
No quantifiable corporate performance measures are associated with this project.

CH-ANLERA / Argonne National Laboratory-East Remedial Actions			
This project conducts remediation activities at Argonne National Laboratory-East to reduce risk and comply with the Resource Conservation and Recovery Act permit which was also funded under the Defense EM appropriation through FY 1998.			
# Continue corrective actions (primarily capping in place or engineered barriers) for the 300 Area Vaults and Rest of Site Area.			
CH-ANLERA	3,290	3,644	4,500

Metrics			
Remedial Actions/Release Sites			
Assessments	4.0	2.0	5.0
Cleanups	0.0	7.0	10.0

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
CH-ANLEWO / Argonne National Laboratory-East Waste Operations			
This project performs all necessary activities to safely and compliantly store, treat, and dispose of waste. These activities are essential for the ongoing Office of Science program mission.			
# Safely and compliantly store, treat and dispose of each waste type in quantities of waste as provided in the metrics table below.			
# Continue programmatic supervision and support for activities, including cost and schedule control; project integration and performance; community relations; regulatory actions; and engineering support.			
CH-ANLEWO	7,251	8,222	7,600

Metrics			
Transuranic Waste			
Storage (m^3)	90.0	92.0	94.0
Treatment (m^3)	11.2	85.2	85.2
Shipped to DOE Disposal Site (m^3)	0.0	2.3	2.3
Mixed Low-Level Waste			
Storage (m^3)	143.0	147.9	152.8
Treatment (m^3)	40.7	27.8	27.8
Low-Level Waste			
Storage (m^3)	113.0	71.0	71.0
Treatment (m^3)	301.0	308.5	308.5
Shipped to DOE Disposal Site (m^3)	283.3	199.6	117.7

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
CH-ANLWRA / Argonne National Laboratory-West Remedial Actions			
This project conducts activities at the Argonne National Laboratory-West Waste Area Group 9 to assess and reduce risk and comply with the Federal Facilities Agreement/Consent Order.			
# Perform second year of two-year planning/verification process for innovative remediation technology (phytoremediation) under Record of Decision.			
CH-ANLWRA	2,030	1,142	809
Metrics			
Remedial Actions/Release Sites			
Assessments	8.0	0.0	0.0
Cleanups	4.0	0.0	4.0
Facility Decommissioning			
Assessments	1.0	0.0	0.0
Cleanups	1.0	0.0	0.0
CH-ANLWWO / Argonne National Laboratory-West Waste Operations			
This project performs all necessary activities to safely and compliantly store, treat, and dispose of waste. FY 1998 funds covered remaining transition to the Office of Nuclear Energy.			
# All activity transferred to the Office of Nuclear Energy in FY 1997.			
CH-ANLWWO	1,600	0	0
Metrics			
No quantifiable corporate performance measures are associated with this project.			

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
CH-BRNLBYW / Brookhaven National Laboratory Boneyard Waste			
This project treats and disposes of legacy wastes at the old Hazardous Waste Management Area, such as bin sludges, connex and concrete containers, dry active wastes, and shielding blocks/debris. Wastes must be disposed before soil remediation in this area can begin.			
# Treat and dispose of additional wastes at old Hazardous Waste Management Facility.			
CH-BRNLBYW	1,801	1,151	2,787
Metrics			
No quantifiable corporate performance measures are associated with this project.			
CH-BRNLDD / Brookhaven National Laboratory Decontamination and Decommissioning Actions			
This project characterizes, stabilizes, remediates, decontaminates and decommissions the Brookhaven Graphite Research Reactor.			
# Continue characterization activities.			
# Stabilization activities will be primarily funded by the DOE Office of Science, in preparation for decommissioning by the Office of Environmental Management beginning in FY 2001.			
CH-BRNLDD	143	3,023	130
Metrics			
This project has associated corporate performance measures; however, no measures are reportable in the three year budget profile.			

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
CH-BRNLPM / Brookhaven National Laboratory Program Management			
This project provides program management support activities to provide a safe and effective environmental management program to reduce environmental and health risks, including support of compliance, quality, safety and health, project technical support including technology application, sample and data management, design support, and project and program support. It also includes funding for an Interagency Agreement with New York State Department of Environmental Conservation for oversight.			
# Continue programmatic supervision and support for Interagency Agreement activities, including cost and schedule control; project integration and performance; community relations; regulatory actions; and engineering support.			
CH-BRNLPM	3,393	3,503	3,647

Metrics
No quantifiable corporate performance measures are associated with this project.

CH-BRNLRA / Brookhaven National Laboratory Remedial Actions

This project addresses areas with known or potential risk to human health and the environment under the DOE/Environmental Protection Agency/New York State Department of Environmental Conservation Resource Conservation and Recovery Act/Comprehensive Environmental Response, Compensation and Liability Act Interagency Agreement.

Continue sitewide monitoring and data management activities.

Continue operations and maintenance of Removal Action V on-site groundwater pump and treat systems and Operable Unit IV (Central Steam Facility Oil Spill) air sparging/soil vapor extraction systems.

Continue remedial design and initiate remedial action (soil excavation and disposal) at old Hazardous Waste Management Disposal Area under Operable Unit I.

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
# Continue remedial design and construction of off-site groundwater treatment system under Operable Unit III, and construction of additional on-site groundwater treatment systems.			
# Initiate remediation of Peconic River sediments under Operable Unit V.			
CH-BRNLRA	15,263	14,906	14,901

Metrics			
Remedial Actions/Release Sites			
Assessments	4.0	12.0	0.0
Cleanups	8.0	1.0	0.0

CH-BRNLWO / Brookhaven National Laboratory Waste Operations

This project performs all necessary activities to safely and compliantly store, treat, and dispose of waste in quantities as provided in the Metrics table below. These activities are essential for the ongoing Office of Science program mission.

Safely and compliantly store, treat, and dispose of each waste type in quantities of waste as provided in the metrics table below.

Continue programmatic supervision and support for activities, including: cost and schedule control; project integration and performance; community relations; regulatory actions; and engineering support.

CH-BRNLWO	5,537	7,418	8,088

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
Metrics			
Mixed Low-Level Waste			
Storage (m^3)	11.8	9.1	0.0
Treatment (m^3)	0.0	0.7	0.7
Disposed On-site/Commercial (m^3)	2.6	9.1	15.5
Low-Level Waste			
Storage (m^3)	217.5	141.6	9.6
Treatment (m^3)	233.3	358.9	358.9
Disposed On-site/Commercial (m^3)	118.0	166.6	222.7
Shipped to DOE Disposal Site (m^3)	56.7	283.2	283.2

CH-CHOOPUAB / Princeton Site A/B Payments

Potentially responsible party payments are required to cover DOE's responsibility, as a previous lessee, for a portion of the characterization/remediation costs for Princeton University's Site A/B, in accordance with the New Jersey Department of Environmental Protection/Princeton University Memorandum of Understanding and DOE/Princeton University Memorandum of Agreement.

Payment of DOE's yearly portion, as a Potentially Responsible Party, of characterization and remediation costs.

CH-CHOOPUAB	153	504	644

Metrics
No quantifiable corporate performance measures are associated with this project.

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
CH-COPS / Chicago Operations Program Support			
This project supports independent reviews, i.e., baseline validation reviews.			
CH-COPS	41	597	0
Metrics			
No quantifiable corporate performance measures are associated with this project.			
CH-PPPLRA / Princeton Plasma Physics Laboratory Remedial Actions			
This project conducts activities to assess and reduce risk at the Princeton Plasma Physics Laboratory Site C/D.			
# Conduct surveillance and monitoring of the Princeton Plasma Physics Laboratory Site C/D.			
CH-PPPLRA	424	351	273
Metrics			
Remedial Actions/Release Sites			
Assessments	8.0	0.0	0.0
Cleanups	8.0	0.0	0.0
CH-PPPLWO / Princeton Plasma Physics Laboratory Waste Operations			
This project performs all necessary activities to safely and compliantly store, treat, and dispose of waste in quantities as provided in the metrics table below. These activities are essential for the ongoing Office of Science program mission.			
# Safely and compliantly store, treat, and dispose of each waste type in quantities of waste as provided in the metrics table below.			
# Continue programmatic supervision and support for activities, including cost and schedule control; project integration and performance; community relations; regulatory actions; and engineering support.			
CH-PPPLWO	2,866	2,992	2,800

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
Metrics			
Mixed Low-Level Waste			
Treatment (m^3)	0.0	2.0	2.0
Disposed On-site/Commercial (m^3)	0.0	2.0	2.0
Low-Level Waste			
Treatment (m^3)	84.7	379.0	379.0
Shipped to DOE Disposal Site (m^3)	84.7	91.0	91.0
Total, Chicago	45,279	54,063	54,100

Explanation of Funding Changes from FY 1999 to FY 2000

	FY 2000 vs. FY 1999 ($000)
CH-AMESWO / Ames Waste Operations	
# Decrease is due to more efficient operations	-46
CH-ANLEDD / Argonne National Laboratory-East Decontamination and Decommissioning Actions	
# Increase supports characterization activities for decontamination and decommissioning of Zero Power and Juggernaut Reactors	1,166
CH-ANLEPM / Argonne National Laboratory-East Program Management	
# Increase is to manage the completion of two major decommissioning projects	191
CH-ANLERA / Argonne National Laboratory-East Remedial Actions	
# Increase is for additional corrective actions activity	856
CH-ANLEWO / Argonne National Laboratory-East Waste Operations	
# Decrease is due to smaller quantities of low-level disposal and more efficient operations	-622
CH-ANLWRA / Argonne National Laboratory-West Remedial Actions	
# Decrease is due to fewer activities needed to implement the final remedy	-333
CH-BRNLBYW / Brookhaven National Laboratory Boneyard Waste	
# Amount is increased to continue boneyard removal activities and to cover disposal of additional waste	1,636
CH-BRNLDD / Brookhaven National Laboratory Decontamination and Decommissioning Actions	

	FY 2000 vs. FY 1999 ($000)
# Decrease reflects that FY 2000 activities will largely be funded by the DOE Office of Science preparation for the initiation of decommissioning	-2,893
CH-BRNLPM / Brookhaven National Laboratory Program Management	
# Increase reflects additional support consistent with increased waste activities	144
CH-BRNLRA / Brookhaven National Laboratory Remedial Actions	
# No significant change	-5
CH-BRNLWO / Brookhaven National Laboratory Waste Operations	
# Increase is due to increase in quantities of legacy low-level waste and mixed low-level waste disposal	670
CH-CHOOPUAB / Princeton Site A/B Payments	
# Increase is due to additional anticipated scope	140
CH-COPS / Chicago Operations Program Support	
# Decrease is due to fewer planned activities	-597
CH-PPPLRA / Princeton Plasma Physics Laboratory Remedial Actions	
# Decrease is due to less monitoring activity anticipated	-78
CH-PPPLWO / Princeton Plasma Physics Laboratory Waste Operations	
# Decrease is due to more efficient operations	-192
Total Funding Change, Chicago	37

Idaho

Mission Supporting Goals and Objectives

Mission

The mission of the Non-Defense Environmental Management (EM) Site/Project Completion program managed by Idaho is to construct a dry storage facility for 145 m^3 of Three Mile Island Unit-2 spent nuclear fuel that is currently in underwater storage at the Idaho National Engineering and Environmental Laboratory's Test Area North. Environmental Management also provides legislatively mandated technical assistance to requesting States and compact regions responsible for commercial low-level radioactive waste through its management of the National Low-Level Waste Program. In addition, this program provided for the deactivation activities associated with two excess reactors and their required surveillance and maintenance.

Program Goal

Throughout the DOE complex, EM is focused on accelerating cleanup and, where possible, completing its mission by FY 2006. At the Idaho National Engineering and Environmental Laboratory, all two of the non-defense elements of the EM mission will be completed within the FY 2006 time frame. The two reactor facilities will be deactivated, the Three Mile Island Unit-2 fuel will be in safe, dry storage, and EM's National Low-Level Waste Program responsibilities will be completed. In FY 1999, the continued monitoring of Three Mile Island-2 fuel and the operation of the Independent Spent Fuel Storage Installation facility will be funded under the Post 2006 Completion-Defense Idaho account.

Program Objective

The objective of the program is to complete construction of the Three Mile Island Unit-2 fuel storage facility in FY 1999, completing the majority of non-defense activities in the Spent Nuclear Fuel Stabilization Program, reducing surveillance and maintenance costs by deactivating two excess reactors, and to continue executing the Department's responsibilities under the National Low-Level Waste Program of technical assistance to states by implementing more efficient and cost-effective approaches through cost-sharing and partnering arrangements.

Performance Measures

Performance Measures are provided at an aggregate level after the Funding by Site table, as well as at a project level, in the Detailed Program Justification.

Significant Accomplishments and Program Shifts

- Initiated construction of independent spent fuel storage installation and complete construction of Three Mile Island Unit-2 independent spent fuel storage installation in support of Idaho Settlement Agreement milestones (FY 1998/FY 1999).
- Completed installation and testing of dewatering system for Three Mile Island spent nuclear fuel (FY 1998).
- Obtain Nuclear Regulatory Commission license approval for the Three Mile Island Unit-2 independent spent fuel storage installation (FY 1999).
- Complete a comprehensive review and analysis of the National Low-level Waste Program to implement in FY 2000 a public/private partnership approach to management of the program (FY 1999).
- For the Power Burst Facility, completed the fuel movement plan for the Power Burst Facility fuels and cleaned up legacy wastes in preparation of facility deactivation (FY 1998).
- For the Materials Test Reactor, completed the Lockheed Martin Idaho Technologies Company Readiness Review in preparation of the Materials Test Reactor fuels move (FY 1998) and will initiate and complete recanning of Materials Test Reactor fuels in preparation of the fuel move to dry storage (FY 1999).
- Meet Idaho Settlement Agreement, Federal Facility Compliance Agreement, Federal Facility Agreement/Consent Order, and other regulatory requirements in a safe and environmentally acceptable manner (FY 2000).
- Commence negotiations with the State of Idaho to develop a mutually agreeable schedule to place Spent Nuclear Fuel into dry interim storage in support of Settlement Agreement, and continue moving Three Mile Island-2 fuel from wet to dry interim storage per Settlement Agreement milestone to complete by June 1, 2001 (FY 2000).

Funding Schedule

(dollars in thousands)

	FY 1998	FY 1999	FY 2000	$ Change	% Change
ID-OIM-110-N / Pre-FY 2007 Surplus Facility Deactivation Project - Non-Defense	627	4,638	763	-3,875	-83.5%
ID-OIM-112-N / Pre-FY 2007 Idaho Engineering and Environmental Laboratory Surveillance and Maintenance - Non-Defense	1,492	1,303	1,600	297	22.8%
ID-SNF-104-N / Constructed New Facilities - Non-Defense	751	0	3,500	3,500	>999.9%
ID-WM-102 / National Low-Level Waste Program	4,021	4,086	3,345	-741	-18.1%
ID-WV-103 / Spent Nuclear Fuel (West Valley)	610	0	0	0	0.0%
Total, Idaho	7,501	10,027	9,208	-819	-8.2%

Funding By Site

(dollars in thousands)

	FY 1998	FY 1999	FY 2000	$ Change	% Change
Idaho National Engineering and Environmental Laboratory	7,501	10,027	9,208	-819	-8.2%
Total, Idaho	7,501	10,027	9,208	-819	-8.2%

Metrics Summary

	FY 1998	FY 1999	FY 2000
Metrics captured under Defense Appropriation			

Site Description

Idaho National Engineering and Environmental Laboratory

The Idaho National Engineering and Environmental Laboratory, established as the National Reactor Testing Station in 1949, occupies 890 square miles in the Snake River Plain of Southeastern Idaho. Over the years, 52 reactors have been constructed and operated at the Idaho National Engineering and Environmental Laboratory. Three of these reactor facilities (Power Burst Facility, Advanced and Coupled Fast Reactivity Measurement Facility, and Material Test Reactor Canal) are managed by the Office of Environmental Management.

Detailed Program Justification

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
The Idaho site is managed through an incentivized integrated contract, with fixed-price subcontracts, to assure the most cost-effective services to the Government. The scope Planned for FY 2000 has been reviewed and is appropriate to meet the goals of the site as outlined in the *Accelerating Cleanup: Paths to Closure.* For most projects the Army Corps of Engineers performed an independent review of the Environment Management baseline at the Idaho National Engineering and Environmental Laboratory. Funds requested are appropriate to perform activities based on historical level of effort.			
ID-OIM-110-N / Pre-FY 2007 Surplus Facility Deactivation Project - Non-Defense			
This project provides for Materials Test Reactor Canal fuel removal deactivation, and Power Burst Facility fuel removal and deactivation.			
# Complete Materials Test Reactor Canal fuel removal deactivation.			
# Initiate Power Burst Facility fuel removal and deactivation.			
ID-OIM-110-N	627	4,638	763
Metrics Metrics captured under ID-OIM-110 in the Defense Site/Project Completion Account			
ID-OIM-112-N / Pre-FY 2007 Idaho Engineering and Environmental Laboratory Surveillance and Maintenance - Non-Defense			
This project maintains the Power Burst Facility/Materials Test Reactor surplus reactors in a safe, secure, and environmentally sound condition until deactivation is complete.			
# Continue surveillance and maintenance at the Power Burst Facility and Materials Test Reactor.			
ID-OIM-112-N	1,492	1,303	1,600

(dollars in thousands)

FY 1998	FY 1999	FY 2000

Metrics
No quantifiable corporate performance measures are associated with this project.

ID-SNF-104-N / Constructed New Facilities - Non-Defense (93-E-900)

The Spent Nuclear Fuel Stabilization Program at the Idaho National Engineering and Environmental Laboratory is focused on constructing a new facility, the Independent Spent Fuel Storage Installation (93-E-900, Long-Term Storage of Three Mile Island-2 Fuel), that will allow the Three Mile Island Unit-2 fuel to be removed from wet storage in the Test Area North and placed in stable, dry interim storage. Completion of this project directly supports Settlement Agreement milestone #E-7 which requires completion of construction by December 31, 1998, initiating Three Mile Island-2 fuel movement into a dry storage facility by March 31, 1999 and completing it by June 1, 2001. In addition, this project eliminates vulnerabilities of underwater spent nuclear fuel storage at Test Area North identified in the October 1993, DOE-Environmental Health Spent Nuclear Fuel Storage Vulnerability Report.

The Three Mile Island-2 spent nuclear fuel inventory at the Idaho National Engineering and Environmental Laboratory (145 m^3) will be moved to the new facility by FY 2001 using funds requested through the Defense Appropriation.

- **#** Obtain Three Mile Island-2 Independent Spent Fuel Storage Installation license amendment to accommodate Loss of Fluid Test and commercial fuels also stored at the Test Area North underwater facility.
- **#** Provide equipment for transfer of the Loss of Fluid Test and Commercial Spent Fuel Storage from Test Area North pool to dry storage.
- **#** Continues funding for construction of the Long-Term Storage of Three-Mile Island-2, 93-E-900. Included in the funding totals for this PBS are $397,000 for FY 1998; $0 for FY 1999; and $2,500,000 for FY 2000.

ID-SNF-104-N	751	0	3,500

(dollars in thousands)

FY 1998	FY 1999	FY 2000

Metrics

No quantifiable corporate performance measures are associated with this project.

ID-WM-102 / National Low-Level Waste Program

Program Management activities provide for technical support to the States and compact regions, and address DOE's Greater-Than-Class-C Low-Level Waste responsibilities.

- # Continue to maintain data bases for tracking and reporting low-level waste disposal information.
- # Continue to support DOE-Headquarters in meeting reporting responsibilities to Congress and public inquiry.
- # Implement more cost sharing and partnering arrangements to continue quality technical assistance to states as mandated by Public Law 99-240.

ID-WM-102	4,021	4,086	3,345

Metrics

No quantifiable corporate performance measures are associated with this project.

ID-WM-103 / Spent Nuclear Fuel (West Valley)

- # FY 1998 funding provided from Ohio/West Valley for spent nuclear fuel storage at Idaho. No FY 2000 funding.

ID-WM-103	610	0	0

Metrics

No quantifiable corporate performance measures are associated with this project.

Total, Idaho	7,501	10,027	9,208

Explanation of Funding Changes from FY 1999 to FY 2000

	FY 2000 vs. FY 1999 ($000)
ID-OIM-110-N / Pre-FY 2007 Surplus Facility Deactivation Project - Non-Defense	
# Decrease reflects completion of recanning of the Materials Test Reactor fuels and completion of deactivation planning at the Power Burst Facility	-3,875
ID-OIM-112-N / Pre-FY 2007 Idaho Engineering and Environmental Laboratory Surveillance and Maintenance - Non-Defense	
# Increase reflects transfer of the Materials Test Reactor from deactivation to surveillance and maintenance activities	297
ID-SNF-104-N / Constructed New Facilities - Non Defense (93-E-900)	
# Bankruptcy of a key subcontractor has delayed the project resulting in additional project costs, and Nuclear Regulatory Commission licensing costs are more than expected	3,500
ID-WM-102 / National Low-Level Waste Program	
# Decrease reflects implementation of public/private partnership management of the program for greater efficiencies	-741
Total Funding Change, Idaho	-819

Major Issues

Idaho's budget request is compliance based and only minimal mortgage reduction activities will be funded in the FY 2000 request, requiring a continued high-level of surveillance and maintenance (costs) for abandoned (contaminated) facilities.

Oakland

Mission Supporting Goals and Objectives

Mission

The mission of the Non-Defense Environmental Management (EM) Site/Project Completion program managed through the Oakland Operations Office is to plan and implement remediation and waste treatment, storage, and disposal activities at seven sites. These sites include Lawrence Berkeley National Laboratory, the Energy Technology Engineering Center, the General Electric Vallecitos Nuclear Center, the General Atomics facility, the Laboratory for Energy-Related Health Research, and the Stanford Linear Accelerator Center. The Non-Defense account also includes the administration of grants at the Oakland Operations Office. The Lawrence Berkeley National Laboratory and the Stanford Linear Accelerator Center continue to have operating facilities under other DOE programs such as the Office of Science, while the other sites are being returned to the landowners.

Program Goal

EM Programmatic goals are to have cleanup completed at these sites by 2006; and to ensure operations, facilities and contaminated sites pose no undue risk to the public, worker health and safety; to maintain compliance with applicable environmental laws; and to manage risks associated with current and prior DOE operations at these sites.

Program Objectives

The program objective is to assess, remediate, decontaminate and decommission contaminated sites and facilities; characterize, treat, minimize, store, and dispose of hazardous and radioactive waste; and develop, demonstrate, test and evaluate new cleanup technologies. These program activities are conducted taking an integrated approach to assessing work and meeting schedules, while balancing risk, mortgage reduction, compliance, cost efficiencies, stakeholder input, and implementation of enhanced performance mechanisms. Financial responsibility for newly generated waste will be returned to the generating DOE program by FY 2003. All of the Oakland Operations Office Non-Defense EM funded sites will be cleaned up and all legacy waste will be characterized and shipped off-site by FY 2006. Long-term surveillance and maintenance of implemented remedial actions (e.g., pump and treat facilities) will be assumed by the landlord programs post FY 2006.

The Oakland Operations Office has plans for the use of innovative technologies at several of its installations. For example, a new remediation technology using water-vapor and nitrogen was chosen for cleaning the sodium loop/systems at the Energy Technology Engineering Center. This technology was selected because it was proven to be a cost-effective method for the removal of sodium and will not

generate hazardous waste. Innovative technologies are also being considered at the Energy Technology Engineering Center for testing ground water remediation. These technologies include anaerobic bio-remediation, steam injection, ozone injection, bio-sparging, moving bed liquid phase carbon adsorption and high vacuum dual phase extraction. In general, the technology selected must be cost-effective to implement and have no adverse impact on neighboring property. Decreased contamination migration during the pilot tests is considered a goal. Technologies being considered at the Laboratory for Energy-Related Health Research will allow for recycling and reuse of material and waste from past decontamination and decommissioning operations and characterization activities. When appropriate, either microencapsulation for lead, waste stabilization or compaction will be used.

Performance Measures

Performance Measures are provided at an aggregate level after the Funding by Site table, as well as at a project level, in the Detailed Program Justification.

Significant Accomplishments and Program Shifts

- Continue environmental restoration activities, i.e., groundwater monitoring, treatment system operation, removal actions, decontamination and decommissioning at Lawrence Berkeley National Laboratory, Stanford Linear Accelerator Center, the Laboratory for Energy-Related Health, and the Energy Technology Engineering Center, to ensure compliance with Federal Facility Agreements and State orders and continue to meet commitments in the *Accelerating Cleanup: Paths to Closure* (FY 2000).
- Shipped about 60 cubic meters of mixed low-level waste to Envirocare; 850 cubic meters of low-level waste to Hanford; and 882 cubic meters of low-level waste to the Nevada Test Site from the Energy Technology Engineering Center (FY 1998).
- Completed decontamination and decommissioning of Liquid Metal Development Lab.-1, and Building 104, a radioactive facility at the Energy Technology Engineering Center (FY 1998).
- Dispose of about 1,000 cubic meters of low-level waste from the Energy Technology Engineering Center (FY 1999).
- Complete assessment activities for the SNAP-8 Groundwater Prototype Test Facility and the H-1 Heater and continue pipe removal and complete bulk sodium removal from the Small Component Test Installation at the Energy Technology Engineering Center (FY 1999).
- Completed 13 release site assessments at the Laboratory for Energy-Related Health Research (FY 1998).
- Removed contaminated soil from the southwest trenches at the Laboratory for Energy-Related Health Research (FY 1998).

- Complete Engineering Evaluation/Cost Analysis and Remedial Action workplan and begin removal actions at Sr-90/Ra-226 areas and complete removal action at the Southwest Trenches Area at the Laboratory for Energy-Related Health Research (FY 1999).
- Completed interim removal action at the Plating Shop and completed Remedial Investigation/Feasibility Study activities at the former Solvent Underground Tank Area and characterization of the master substation at the Stanford Linear Accelerator Center (FY 1998).
- Complete interim removal action at the Lower Salvage Yard and Remedial Investigation/Feasibility Study activities at the Monitoring Well 24 area Plating Shop at the Stanford Linear Accelerator Center (FY 1999).
- Disposed of 60 cubic meters of low-level waste from Lawrence Berkeley National Laboratory (FY 1998).
- Continue to prepare Lawrence Berkeley National Laboratory mixed waste for shipment to Idaho National Engineering and Environmental Laboratory and begin to work-off low-level waste formerly stored at the old Hazardous Waste Management Facility (FY 1999).
- Obtained approval from Hanford and shipped 0.5 cubic meters of low-level biowaste from Laboratory for Energy Related Health (FY 1998); continue shipments in FY 1999.
- Completed closure of Hazardous Waste Handling Facility at Lawrence Berkeley National Laboratory (FY 1998).
- Perform interim corrective measures at Building 17 and 52 by removing polychlorinated biphenyl contaminated soil at Lawrence Berkeley National Laboratory (FY 1999).
- Completed Hot Cell Facility decontamination activities at General Atomics (FY 1998).
- Complete the dismantlement of the Hot Cell Facility and soil remediation activities at General Atomics (FY 1999).
- Complete cleanup activities at the General Atomics Site (FY 2000).
- Initiate characterization activities for decontamination and decommissioning of General Electric Hot Cell (FY 1999).
- Continue storage, treatment, and some off-site disposal of waste (low-level, mixed low-level, and transuranic) at the Lawrence Berkeley National Laboratory, the Laboratory for Energy-Related Health Research, and the Energy Technology Engineering Center (FY 2000).

Funding Schedule

(dollars in thousands)

	FY 1998	FY 1999	FY 2000	$ Change	% Change
OK-003 / Lawrence Berkeley National Laboratory Soils and Groundwater (Environmental Restoration)	2,833	3,500	3,500	0	0.0%
OK-004 / Lawrence Berkeley National Laboratory Hazardous Waste Handling Facility Closure (Environmental Restoration)	657	0	0	0	0.0%
OK-005 / Stanford Linear Accelerator Center (Environmental Restoration)	1,006	1,000	1,400	400	40.0%
OAK-007 / Energy Technology Engineering Center Remediation	9,743	8,352	10,248	1,896	22.7%
OAK-009 / Energy Technology Engineering Center Landlord	4,000	5,578	3,650	-1,928	-34.6%
OK-010 / Laboratory for Energy-Related Health Research Environmental Restoration	5,580	3,030	3,000	-30	-1.0%
OK-012 / Hot Cell Facility Decontamination and Decommissioning at General Atomics	4,280	2,030	1,100	-930	-45.8%
OK-013 / General Electric Decontamination and Decommissioning (Environmental Restoration)	0	313	500	187	59.7%
OK-014 / Laboratory for Energy-Related Health Research Waste Management	1,222	1,359	863	-496	-36.5%
OK-015 / Lawrence Berkeley National Laboratory Legacy Waste	0	1,228	1,498	270	22.0%
OK-016 / Lawrence Berkeley National Laboratory Newly Generated Wastes	5,775	5,940	6,100	160	2.7%
OK-040 / Program Management and State Grants	87	0	300	300	>999.9%
OK-042 / Energy Technology Engineering Center Waste Management	3,882	2,564	3,500	936	36.5%
Total, Oakland	39,065	34,894	35,659	765	2.2%

Funding By Site

(dollars in thousands)

	FY 1998	FY 1999	FY 2000	$ Change	% Change
Energy Technology Engineering Center/Santa Susana Field Laboratory (CA)	17,625	16,494	17,398	904	5.5%
General Atomics (CA)	4,280	2,030	1,100	-930	-45.8%
General Electric (CA)	0	313	500	187	59.7%
Lawrence Berkeley National Laboratory (CA)	9,265	10,668	11,098	430	4.0%
Oakland Operations Office (CA)	87	0	300	300	>999.9%
Stanford Linear Accelerator Center (CA)	1,006	1,000	1,400	400	40.0%
U.C. Davis / Laboratory for Energy-Related Health Research (CA)	6,802	4,389	3,863	-526	-12.0%
Total, Oakland	39,065	34,894	35,659	765	2.2%

Metrics Summary

	FY 1998	FY 1999	FY 2000
Remedial Action/Release Site			
Assessments	35.0	8.0	16.0
Cleanups	10.0	3.0	9.0
Facility Decommissioning			
Assessments	4.0	2.0	0.0
Cleanups	5.0	1.0	2.0
Transuranic Waste			
Storage (m^3)	9.0	9.0	6.9
Treatment (m^3)	0.0	0.0	2.1
Shipped to DOE Disposal Site (m^3)	0.0	0.0	2.1
Mixed Low-Level Waste			
Storage (m^3)	39.8	173.8	256.8
Treatment (m^3)	16.5	1.3	116.0
Disposed On-site/Commercial (m^3)	60.0	54.1	0.1
Shipped to DOE Disposal Site (m^3)	3.5	1.0	0.0
Low Level Waste			
Storage (m^3)	4,446.0	4,510.0	3,429.0
Treatment (m^3)	72.0	18.0	10.0
Disposed On-site/Commercial (m^3)	214.1	1,446.0	242.0
Shipped to DOE Disposal Site (m^3)	2,525.5	1,290.0	1,410.0
Hazardous Waste			
Disposal On-site/Commercial (MT)	294.0	322.0	0.0

Site Description

Lawrence Berkeley National Laboratory

The 130-acre Lawrence Berkeley National Laboratory site is located adjacent to the University of California in Berkeley, California. Remediation activities at the Lawrence Berkeley National Laboratory focus on characterization and remediation of contaminated soil and ground water and the closure of the old Hazardous Waste Handling Facility. Currently, there are 163 release sites and one facility on site, of which 125 release sites and the facility will be completed by FY 2000. The waste management activities provide compliant storage, treatment, and off-site disposal of both legacy and currently generated hazardous and radioactive waste. Disposal of a backlog of non-compactible low-level waste to Hanford will begin in FY 1999. Environmental restoration activities will be completed and the financial responsibility for newly generated waste will be returned to the generating DOE program by FY 2003.

Energy Technology Engineering Center

The Energy Technology Engineering Center is a DOE facility located on 90 acres of leased land from Boeing North American Corporation in Simi Valley, California. The environmental restoration activities at the Energy Technology Engineering Center are to remediate contaminated ground water, complete decontamination and decommissioning of 12 remaining radiological facilities, deactivate and cleanup of 5 remaining sodium facilities, provide landlord functions, complete the 6 remaining release sites, and perform waste characterization and off-site disposal by FY 2005. Overall site closure will be achieved by FY 2006.

General Electric

The General Electric Site is a privately-owned site located near Pleasanton, California. Activities are focused on cleanup of a High Level Hot Cell and irradiated reactor components and a glove box enclosure. In FY 1998, surveillance, maintenance and characterization activities will be initiated. The General Electric site is comprised of 2 facilities, and cleanup will be completed by FY 2006. Once the facility is completed, it will be returned to the landowners for future use.

General Atomics

The General Atomic site is privately-owned and located near San Diego, California. General Atomics has maintained and operated a Hot Cell Facility for over 30 years to conduct both Government and commercially funded nuclear research and development. Department of Energy efforts are focused on cleanup of the Hot Cell Facility and surrounding contaminated soils. The General Atomics site is comprised of 1 facility and 2 release sites, all of which will be completed by FY 2000. Cleanup activities

will be finalized with the off-site removal of legacy waste and return of the site to the landowners for unrestricted future use.

Laboratory for Energy-Related Health Research

The Laboratory for Energy-Related Health Research site is located at the University of California, Davis. Research at the laboratory originally focused on the health effects from chronic exposure to radionuclides using animal subjects to simulate radiation effects on humans. DOE terminated the research program and closed the Laboratory in 1988. Environmental restoration activities are directed toward cleaning up DOE areas of site contamination for release to the University of California, Davis without radiological restrictions. The Laboratory for Energy-Related Health Research site is comprised of 17 release sites, of which 8 will be completed by FY 2000; and 8 facilities, of which 7 are to be completed as of FY 2000. Waste characterization and off-site disposal and overall site cleanup will be completed by FY 2002.

Stanford Linear Accelerator Center

The Stanford Linear Accelerator Center site is a 426-acre site located at Stanford University in California. It is managed under contract between DOE and Stanford University where theoretical research in high-energy particle physics is conducted. Remediation efforts focus on the cleanup of polychlorinated biphenyls contaminated soil sites and several solvent contaminated ground water sites. The Stanford Linear Accelerator Center site is comprised of 14 release sites, all of which will be completed in FY 2002. Responsibility for waste management activities was transferred to Energy Research, the generating DOE program, in FY 1998.

Oakland Operations Office

The Oakland Operations Office and the State of California have an agreed to statement of work for grant funds. Oakland Operations Office awards and manages grants provided to the state for oversight activities which include, participation in meetings, review of documents, and involvement with the public.

Detailed Program Justification

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
The Lawrence Berkeley National Laboratory, Stanford Linear Accelerator Center, and Energy Technology Engineering Center sites are managed through performance based contracts to assure the most cost-effective services to the Government. The Laboratory for Energy-Related Health Research site is managed through an incentivized contract. The scope planned for FY 2000 at these sites has been reviewed and is appropriate to meet the goals of the site as outlined in the *Accelerating Cleanup: Paths to Closure.* The project work at these sites have had an independent cost review of the scope (e.g. the Corps of Engineers and Oakland's in-house non-programmatic cost estimating staff have reviewed the Energy Technology Engineering Center scope, and this staff has also reviewed the Laboratory for Energy-Related Health Research scope and cost). The funds requested for FY 2000 for these sites are appropriate to perform the activities based on a historical level of effort costs.			
OK-003 / Lawrence Berkeley National Laboratory Soils and Groundwater (Environmental Restoration)			
The mission of this project is to investigate and cleanup all release sites of hazardous and/or radioactive waste in soil and groundwater that may have occurred at the site. All remediation activities will be conducted using Resource Conservation and Recovery Act guidance and State regulations.			
# Continue monitoring, maintenance, and operations of groundwater treatment systems.			
# Prepare corrective measures study and begin excavation of approximately 100 cubic yards of contaminated soil at seven locations.			
OK-003	2,833	3,500	3,500

Metrics			
Remedial Actions/Release Sites			
Assessments	20.0	7.0	12.0
Cleanups	9.0	0.0	1.0

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
OK-004 / Lawrence Berkeley National Laboratory Hazardous Waste Handling Facility Closure (Environmental Restoration)			
This project provided for the closure of the old Hazardous Waste Handling Facility recently replaced by a new facility constructed by the waste management program. The closure was performed in accordance with Lawrence Berkeley National Laboratory's site Resource Conservation and Recovery Act Part B Permit Closure Plan.			
# Project completed in FY 1998.			
OK-004	657	0	0
Metrics			
Facility Decommissioning			
Assessments	1.0	0.0	0.0
Cleanups	1.0	0.0	0.0
OK-005 / Stanford Linear Accelerator Center (Environmental Restoration)			
The mission of this project is to clean up contaminated soils and groundwater using Comprehensive Environmental Response, Compensation and Liability Act guidance. The Stanford Linear Accelerator Center is an operating facility which is being operated by Stanford University under a contract with DOE to conduct theoretical research in high-energy particle physics. The DOE Office of Science will be responsible for the groundwater monitoring system beyond Fiscal Year 2002.			
# Completion of remediation of the Lower Salvage Yard and Monitoring Well 24 Area.			
# Continue groundwater monitoring.			
OK-005	1,006	1,000	1,400
Metrics			
Remedial Actions/Release Sites			
Assessments	2.0	0.0	2.0
Cleanups	0.0	1.0	2.0

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
OK-007 / Energy Technology Engineering Center Remediation			
This project accomplishes (1) cleanup of contaminated release sites; (2) decontamination and decommissioning of radioactive, and chemically contaminated facilities at the Energy Technology Engineering Center for eventual release to Boeing; and (3) remediation of contaminated groundwater.			
# Complete decontamination and decommissioning activities at the H-1 Heater facility.			
# Continue operating groundwater monitoring system.			
# Continue Resource Conservation and Recovery Act corrective measures workplan activities.			
# Complete decontamination and decommissioning activities at the SNAP-8 facility.			
OK-007	9,743	8,352	10,248

Metrics			
Remedial Actions/Release Sites			
Assessments	0.0	0.0	1.0
Facility Decommissioning			
Assessments	3.0	2.0	0.0
Cleanups	4.0	0.0	2.0

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
OAK-009 / Energy Technology Engineering Center Landlord			
This project accomplishes all infrastructure management and surveillance and maintenance activities at the Energy Technology Engineering Center. Activities include: (1) landlord general support, such as rent, environmental support, permits, security and fire protection; (2) surveillance and maintenance (laboratory, facilities, records, and other support service). Landlord responsibilities for the Energy Technology Engineering Center were transferred to EM in FY 1997 from Nuclear Energy.			
# All infrastructure management, and surveillance and maintenance activities.			
# Complete divestment of 70 percent of the personal property (equipment)			
# Complete turnover of 50 percent of facilities (real property) to Rocketdyne, the owner of the site.			
OAK-009	4,000	5,578	3,650

Metrics
This project has associated corporate performance measures; however, no measures are reportable in the three year budget profile.

OK-010 / Laboratory for Energy-Related Health Research Environmental Restoration			
This project accomplishes; (1) decontamination and decommissioning of radioactive and chemically contaminated facilities; (2) removal of on-site radioactive sources; (3) remediation and/or removal of soil contamination at DOE burial areas, leach fields, and outdoor dog pens; (4) closure or removal of underground tanks; (5) verification of cleanup completion; and (6) post closure monitoring as required by Comprehensive Environmental Response, Compensation and Liability Act for National Priority List sites. The cleaned facilities and land will be returned to the University of California, Davis for future use.			
# Completion of removal action at SR-90/Ra-226 Areas and at the Western dog pens.			
OK-010	5,580	3,030	3,000

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
Metrics			
Remedial Actions/Release Sites			
Assessments	13.0	1.0	1.0
Cleanups	0.0	1.0	6.0

OK-012 / Hot Cell Facility Decontamination and Decommissioning at General Atomics

The mission of this project is to remove radiological and hazardous contamination from the Hot Cell Facility leading to the release of the site to the landowner for future use.

- **#** Complete decontamination and decommissioning activities at the Hot Laboratory.
- **#** Interim on-site storage of irradiated fuel material at General Atomics until future shipment to Idaho National Engineering Laboratory can be accommodated.

OK-012	4,280	2,030	1,100

Metrics			
Remedial Actions/Release Sites			
Cleanups	1.0	1.0	0.0
Facility Decommissioning			
Cleanups	0.0	1.0	0.0
Mixed Low-Level Waste			
Storage (m^3)	13.3	0.3	0.0
Treatment (m^3)	13.0	0.3	0.0
Low Level Waste			
Storage (m^3)	906.0	390.0	0.0
Treatment (m^3)	42.0	8.0	0.0
Disposed On-site/Commercial (m^3)	0.0	540.0	0.0
Shipped to DOE Disposal Site (m^3)	793.0	390.0	0.0

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
OK-013 / General Electric Decontamination and Decommissioning (Environmental Restoration)			
This project allows for the decontamination of Hot Cell #4 located in the Radioactive Materials Laboratory in Building 102 at the General Electric Vallecitos site near Pleasanton, California.			
# Complete maintenance and characterization, begin decontamination and decommissioning of glove box in the Hot Cell.			
OK-013	0	313	500

Metrics
This project has associated corporate performance measures; however, no measures are reportable in the three year budget profile.

OK-014 / Laboratory for Energy-Related Health Research Waste Management			
The mission of this project to characterize, treat, transfer and/or dispose of remaining environmental restoration waste.			
# Complete waste management State and Federal Reports and documents, manage storage areas, conduct radiation surveys, negotiate contracts for disposal of materials and waste, prepare waste plans and off-site shipments for material and wastes.			
OK-014	1,222	1,359	863

Metrics			
Mixed Low-Level Waste			
Storage (m^3)	0.0	39.0	0.0
Disposed On-site/Commercial (m^3)	0.0	39.0	0.0
Low-Level Waste			
Storage (m^3)	1,809.0	2,450.0	2,000.0
Disposed On-site/Commercial (m^3)	153.5	764.0	200.0
Shipped to DOE Disposal Site (m^3)	0.5	0.0	0.0
Hazardous Waste			
Storage (MT)	286.0	322.0	0.0

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
OK-015 / Lawrence Berkeley National Laboratory Legacy Waste			
The mission of this project is to reduce inventories of previously generated hazardous, radioactive and mixed waste that have been generated by DOE programs at Lawrence Berkeley National Laboratory for which the Environmental Management program is responsible. Activities in this project support the treatment, storage, and disposition of legacy waste.			
# Waste Management activities continue to prepare for shipment of waste to Idaho National Engineering and Environmental Laboratory.			
# Continue storage treatment and disposal activities to reduce waste from Building 75 lower yard.			
OK-015	0	1,228	1,498

Metrics			
Mixed Low-Level Waste			
Storage (m^3)	0.0	4.0	2.7
Disposed On-site/Commercial (m^3)	0.0	0.1	0.1
Low-Level Waste			
Storage (m^3)	0.0	36.0	9.0
Disposed On-site/Commercial (m^3)	0.0	27.0	27.0

OK-016 / Lawrence Berkeley National Laboratory Newly Generated Wastes			
Activities in this project are required to treat, store, transport, and dispose of newly generated hazardous, radioactive transuranic and mixed waste. Limited treatment of low-level waste and mixed waste is done on site. Packaging and shipping of hazardous waste, low-level waste and mixed waste in accordance with off-site Treatment, Storage, Disposal Facility requirements is the primary work performed in this project.			
# Continue routine shipments of newly generated tritium and compactible low-level waste.			
# Implement pollution prevention techniques and practices resulting in enhanced performance and reduced project costs.			
OK-016	5,775	5,940	6,100

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
Metrics			
Transuranic Waste			
Storage (m^3)	1.0	1.0	1.0
Mixed Low-Level Waste			
Storage (m^3)	17.5	9.5	12.3
Treatment (m^3)	3.5	1.0	1.0
Shipped to DOE Disposal Site (m^3)	3.5	0.0	0.0
Low-Level Waste			
Storage (m^3)	79.0	134.0	134.0
Treatment (m^3)	30.0	10.0	10.0
Disposed On-site/Commercial (m^3)	60.6	15.0	15.0
Hazardous Waste			
Disposed On-site/Commercial (MT)	8.0	0.0	0.0

OK-040 / Program Management and State Grants

This project provides funding for the Oakland Operations Office to support and manage state grants.

Continue to provide grant funds in support of state oversight activities.

OK-040	87	0	300

Metrics
No quantifiable corporate performance measures are associated with this project.

OK-042 / Energy Technology Engineering Center Waste Management

This project accomplishes all necessary activities to manage and implement a waste management program for ongoing and planned environmental cleanup activities at the Energy Technology Engineering Center site. This project funds two existing facilities that will provide centralized waste management of hazardous, radioactive and mixed waste generated from environmental cleanup activities and transportation of wastes for its final disposition. Funded activities include: (1) operation of the Hazardous Waste Management Facility; (2) operation of the Radioactive Material Handling Facility; and (3) Resource Conservation and Recovery Act closure of these facilities upon the end of their useful life (by the end of FY 2006).

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
# Continue operation of the Radioactive Materials Handling Facility and the Hazardous Waste Management Facility.			
OK-042	3,882	2,564	3,500

Metrics			
Transuranic Waste			
Storage (m^3)	8.0	8.0	5.9
Treatment (m^3)	0.0	0.0	2.1
Shipped to DOE Disposal Off-site (m^3)	0.0	0.0	2.1
Mixed Low-Level Waste			
Storage (m^3)	9.0	121.0	241.8
Treatment (m^3)	0.0	0.0	115.0
Disposed On-site/Commercial (m^3)	60.0	15.0	0.0
Shipped to DOE Disposal Off-site (m^3)	0.0	1.0	0.0
Low-Level Waste			
Storage (m^3)	1,652.0	1,500.0	1,286.0
Disposed On-site/Commercial (m^3)	0.0	100.0	0.0
Shipped to DOE Disposal Off-site (m^3)	1,732.0	900.0	1,410.0

Total, Oakland	39,065	34,894	35,659

Explanation of Funding Changes from FY 1999 to FY 2000

	FY 2000 vs. FY 1999 ($000)
OK-005 / Stanford Linear Accelerator Center (Environmental Restoration)	
# Increased funding to support completion of environmental restoration activities at the Stanford Linear Accelerator Center site by FY 2002	400
OAK-007 / Energy Technology Engineering Center Remediation	
# Increase in funds supports completion of decontamination and decommissioning of foundations at the Sodium Component Test Loop and Liquid Materials Development Laboratories 1 and 2 to maintain planned site closure by FY 2006. These activities were not originally planned	1,896
OAK-009 / Energy Technology Engineering Center Landlord	
# The decrease in funding is due to fewer facilities needing infrastructure management and surveillance and maintenance and major divestment actions	-1,928

	FY 2000 vs. FY 1999 ($000)
OK-010 / Laboratory for Energy-Related Health Research Environmental Restoration	
# Requested funding level is adequate to allow performance of activities necessary to complete project in FY 2002 as scheduled. No significant change	-30
OK-012 / Hot Cell Facility Decontamination and Decommissioning at General Atomics	
# Decrease reflects rampdown of activities toward project completion in FY 2000	-930
OK-013 / General Electric Decontamination and Decommissioning (Environmental Restoration)	
# Increased cost for surveillance and maintenance of facility	187
OK-014 / Laboratory for Energy-Related Health Research Waste Management	-
# Decrease in funding is related to the reduced volume of environmental mixed low-level waste estimated to be processed and stored	-496
OK-015 / Lawrence Berkeley National Laboratory Legacy Waste	
# Slight increase in low-level waste treatment cost and mixed low-level waste storage costs for legacy waste	270
OK-016 / Lawrence Berkeley National Laboratory Newly Generated Wastes	
# Slight increase in low-level waste treatment cost and mixed low-level waste storage cost for newly generated wastes and to fund pollution prevention activities	160
OK-040 / Program Management and State Grants	
# Increased funding for the Oakland Operations Office is needed to support and manage the state grants associated with regulatory, oversight and participation	300
OK-042 / Energy Technology Engineering Center Waste Management	
# Increase in costs due to shipping of low-level waste from decontamination and decommissioning activities and other soil shipments; and work on the Resource Conservation and Recovery Act closure of the Hazardous Waste Materials Facility (Building 133) at the Energy Technology Engineering Center	936
Total Funding Change, Oakland	765

Richland

Mission Supporting Goals and Objectives

Mission

The mission of the Non-Defense Environmental Management Site/Project Completion program, managed by the Richland Operations Office, is cleanout and surveillance and maintenance activities for buildings formerly used for Nuclear Energy research and development.

Program Goal

The goal is to transition former Nuclear Energy facilities to safe, compliant, long-term, economic, interim condition pending ultimate disposition.

Program Objective

The objective is to perform cleanout and stabilization activities to put these facilities into a low-cost surveillance and maintenance condition as soon as possible.

Performance Measures

Performance Measures are provided at an aggregate level after the Funding by Site table, as well as at a project level, in the Detailed Program Justification.

Significant Accomplishments and Program Shifts

No significant change.

Funding Schedule

(dollars in thousands)

	FY 1998	FY 1999	FY 2000	$ Change	% Change
RL-TP08 / 324/327 Facility Transition Project	13,200	0	0	0	0.0%
RL-TP11 / Advanced Reactors Transition . . .	5,853	1,863	1,418	-445	-23.9%
Total, Richland	19,053	1,863	1,418	-445	-23.9%

Funding By Site

(dollars in thousands)

	FY 1998	FY 1999	FY 2000	$ Change	% Change
Hanford	19,053	1,863	1,418	-445	-23.9%
Total, Richland	19,053	1,863	1,418	-445	-23.9%

Metrics Summary

	FY 1998	FY 1999	FY 2000
Spent Nuclear Fuel			
Stabilized During the Period (m^3)	0.3	0.0	0.0
Stabilized During the Period (MTHM)	0.2	0.0	0.0

Site Description

Hanford

The Richland Operations Office manages the Hanford site, which is located on 560 square miles (1,450 square kilometers) in southeastern Washington. Hanford was among the first facilities constructed by the Manhattan Project for the production of plutonium for national defense. Historically, the Hanford mission was plutonium production, reactor and processing operations, and research related to advanced reactors, energy technologies, and basic sciences. All production activities ceased in 1989, leaving a legacy of significant quantities of hazardous and nuclear waste.

Detailed Program Justification

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
The site is managed through an incentivized integrated contract, with fixed-price subcontracts, to assure the most cost-effective services to the Government. The scope planned for FY 2000 has been reviewed and is appropriate to meet the goals of the site as outlined in the Accelerating Cleanup: Paths to Closure. All of the projects included in this section of the budget have had an independent cost review of the scope, and the funds requested for FY 2000 are appropriate to perform the activities based on estimated project progress and accumulated cost management success.			
RL-TP08 / 324/327 Facility Transition Project			
This project provides for planning, deactivation, and maintenance of a minimum safe status for the 324/327 facilities, clean out of the B-Cell in the 324 building, and legacy waste removal from the 327 building.			
# In FY 2000 there is no activity in the Non-Defense Site/Project Completion budget for this project. Funding is included under the Defense Site/Project Completion budget, beginning in FY 1999.			
RL-TP08	13,200	0	0

Metrics
No quantifiable corporate performance measures are associated with this project.

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
RL-TP11			
The purpose of this project is to safely transition the Plutonium Recycle Test Reactor/309 Building, the Nuclear Energy Legacies, and the Fast Flux Test Facility/Fuels and Materials Examination Facility (FY 1998 only) to a deactivated state. This includes minimum safe surveillance and maintenance activities necessary for maintaining facility safety basis.			
# Continue minimum safe surveillance and maintenance activities necessary for maintaining facility safety bases.			
RL-TP11	5,853	1,863	1,418
Metrics			
Spent Nuclear Fuel			
Stabilized During the Period (m^3)	0.3	0.0	0.0
Stabilized During the Period (MTHM)	0.2	0.0	0.0
Total, Richland	19,053	1,863	1,418

Explanation of Funding Changes from FY 1999 to FY 2000

	FY 2000 vs. FY 1999 ($000)
RL-TP11 / Advanced Reactors Transition	
# Decrease reflects deferral of further facility deactivation due to budget constraints	-445
Total Funding Change, Richland	-445

Capital Operating Expenses & Construction Summary

Capital Operating Expenses

(dollars in thousands)

	FY 1998	FY 1999	FY 2000	$ Change	% Change
General Plant Projects	890	263	75	-188	-71.5%
Accelerator Improvement Projects	0	0	0	0	0%
Capital Equipment	169	148	289	141	95.3%
Total, Capital Operating Expense	1,059	411	364	-47	-11.4%

Construction Projects

(dollars in thousands)

	Total Estimated Cost (TEC)	Prior Year Appropriations	FY 1998	FY 1999	FY 2000	Unappropriated Balance
93-E-900 Long-Term Storage of TMI-2 Fuel, INEEL	28,000	25,103	397	0	2,500	0
Total, Construction		25,103	397	0	2,500	0

93-E-900 Long Term Storage of TMI-2 Fuel, Idaho National Engineering and Environmental Laboratory, Idaho Falls, Idaho (ID-SNF-104-N)

(Changes from FY 1999 Congressional Budget Request are denoted with a vertical line [|] in the left margin)

Significant Changes

Scope of this project has been reducted by removing the Transport Equipment and aligning this work with Defense Operating funds for fuel movement (documented funding determination).

The license application process has delayed construction and changed some technical requirements. In addition, a primary subcontractor went bankrupt causing significant delays resulting in additional subcontractor and contractor costs. As a result, the total estimated cost and total project cost have increased.

1. Construction Schedule History

	Fiscal Quarter				Total Estimated Cost ($000)	Total Project Cost ($000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 1993 Budget Request *(Preliminary Estimate)*	1Q 1993	1Q 1994	2Q 1993	4Q 1997	20,600	24,200
FY 1994 Budget Request *(Preliminary Estimate)*	1Q 1993	1Q 1994	2Q 1993	4Q 1997	20,600	24,200
FY 1995 Budget Request *(Preliminary Estimate)*	1Q 1993	1Q 1994	2Q 1993	4Q 1997	20,600	24,200
FY 1996 Budget Request *(Preliminary Estimate)*	1Q 1993	1Q 1994	2Q 1993	4Q 1997	20,600	24,200
FY 1997 Budget Request *(Title I Baseline)*	1Q 1993	Design/Build/ Turnkey	4Q 1995	4Q 1997	25,500	30,000
FY 1998 Budget Request *(Title I Baseline)*	1Q 1993	Design/Build/ Turnkey	4Q 1995	4Q 1998	25,500	30,000
FY 1999 Budget Request *(Title I Baseline)*	No Request	No Request	No Request	No Request	No Request	No Request
FY 2000 Budget Request *(Current Baseline)*	1Q 1993	Design/Build/ Turnkey	1Q 1996	4Q 2001	28,000	33,500

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Cost
Design/Construction			
1993	2,720	2,720	253
1994	6,854 [a]	6,854 [a]	982
1995	4,910	4,910	317
1996	4,048	4,048	2,924
1997	6,571	6,571	1,941
1998	397	397	4,061
1999	0	0	10,434
2000	2,500	2,500	1,909
2001	0	0	5,179

3. Project Description, Justification and Scope

This project provides dry storage for reactor fuel bearing materials currently in the Test Area North (TAN) Hot Shop Pool including the Three Mile Island-2 (TMI-2) core debris (packaged in canisters). The Three Mile Island-2 core debris canisters will be moved to an interim storage system at Idaho Nuclear Technology and Engineering Center (INTEC), formerly known as Idaho Chemical Processing Plant (ICPP), provided by a vendor under a design/build/turnkey procurement contract.

The Long Term Storage of Three Mile Island-2 Fuel Project includes construction of a canister dewatering and drying system, and a Nuclear Regulatory Commission (NRC) licensed Independent Spent Fuel Storage Installation (ISFSI).

The purpose of this project is to provide dry fuel storage capabilities for the fuel bearing material currently stored in the TAN-607 Pool and thus reduce the current risk of submerged fuel storage. The TAN-607 Pool does not meet current DOE Orders. A commercially available and licensable dry storage system will be constructed at Idaho Nuclear Technology and Engineering Center to receive and store the Three Mile Island-2 fuel canisters. A dewatering and drying system will be installed at TAN to remove the water from the canisters prior to transport and dry storage. (Drying operation is not in project scope.)

Justification of need for the Long Term Storage of Three Mile Island-2 Fuel Project is five fold. In prioritized order, this project will:

1) Comply with DOE, the Department of Navy and the State of Idaho Agreement and the Federal District Court Order that incorporated as requirements, the terms and conditions of the parties Settlement Agreement. Paragraph E7 of this agreement states: “DOE shall complete construction of the Three Mile

[a] Directed reduction of $466,000 due to rescission directed by Congress.

Island dry storage facility by December 31, 1998. DOE shall commence moving fuel into the facility by March 31, 1999, and shall complete moving fuel into the facility be June 1, 2001".

2) Significantly reduce annual storage costs thus saving a substantial fraction of the planned operating funding ($2000 K+ per year for 30 years) for storage surveillance activities.

3) Avoid potential long-term problems associated with storage in an unlined, obsolete (circa 1950) pool. In addition to being unlined, installed pool monitoring apparatus does not exist.

4) Prolong canister life, thus eliminating subsequent repackaging costs, by removing the canisters from the lifetime-limiting water environment.

5) Allow removal of fuel materials from the pool thus allowing the facility to be made available for shut down, or decontamination, or decommissioning.

Failure to complete this project will result in non-compliance with the Idaho Settlement Agreement, continued acceptance of the financial, environmental and safety liabilities associated with storage in an aging, outdated pool, and postponement of the inevitable need to remove the pool contents to a more stable storage environment, with potential costs associated with repackaging.

4. Details of Cost Estimate

(dollars in thousands)

	Current Estimate	Previous Estimate
Design Phase		
Preliminary and Final Design Costs	1,756	1,500
Project Management costs (2.3% of TEC)	652	0
Total, Engineering, design, inspection and administration of construction costs (8.6% of TEC)	2,408	1,500
Construction Costs		
Improvements to Land	505	275
Special Facilities	0	700
Specialized Equipment/Other Structures	15,591	15,132
Utilities	0	330
Removal cost less salvage	150	0
Inspection, design and project liaison, testing, checkout and acceptance	687	0
Construction Management Costs (<1% of TEC)	162	200
Project Management Costs	4,639	3,600
Total, Construction Costs	21,734	20,237
Contingency (approximately 13.8% of TEC)	3,858	3,763
Total, Line Item costs (TEC)	28,000	25,500

5. Method of Performance

The Department of Energy Idaho Operations Office (DOE-ID) assigned performance of the Line Item Scope of Work to Lockheed Martin Idaho Technologies Company (LMITCO). Lockheed Martin Idaho Technologies Company will be responsible for implementation of the project including selection of principal subcontractors. DOE Idaho Operations Office project management will be performed by the Spent Fuel Program Office. DOE Idaho Operations Office is the Nuclear Regulatory Commission licensee and is, therefore, responsible to the Nuclear Regulatory Commission for the system as documented in the Safety Analysis Report. Safety, environmental, and other project documentation will be furnished to the project on an as-needed basis by the DOE Idaho Operations Office and HQ matrix organizations.

Lockheed Martin Idaho Technologies Company (LMITCO), as the operating contractor, will provide project management services to coordinate all project activities. Lockheed Martin Idaho Technologies Company will be responsible for the development of the project's technical requirements, completion of the Architectural and Engineering design, review and management of the engineering and construction activities, coordination of long-lead procurement of construction materials and equipment, construction subcontracting, coordination of the activities of construction subcontractors, checkout of systems, and turnover of the completed project.

6. Schedule of Project Funding

(dollars in thousands)

	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	Total
Project Cost						
Facility Cost						
Design	2,086	152	170	0	0	2,408
Construction	4,331	3,909	10,264	1,909	5,179	25,592
Total Facility Cost	6,417	4,061	10,434	1,909	5,179	28,000
Other Project Cost						
Conceptual design costs	0	0	0	0	0	0
NEPA documentation costs	228	0	0	0	0	228
Other project-related costs	2,653	715	902	320	682	5,272
Total other project costs	2,881	715	902	320	682	5,500
Total project costs	9,298	4,776	11,336	2,229	5,861	33,500
LESS: Non-Federal contribution	0	0	0	0	0	0
Total, Other project costs	9,298	4,776	11,336	2,229	5,861	33,500

7. Related Annual Funding Requirements

	(FY 2001 dollars in thousands)	
	Current Estimate	Previous Estimate
Annual facility operating costs	950	950
Annual facility maintenance and repair costs	0	0
Total related annual funding (operating from FY 2001 through FY 2021)	950	950

Post 2006 Completion

Program Mission

The Post 2006 Completion account includes Environmental Management projects currently planned to require funding beyond FY 2006. Within the Non-Defense Environmental Management appropriation, this account includes projects at the Oak Ridge Reservation in Tennessee, the Los Alamos National Laboratory in New Mexico, and a variety of multi-site activities.

After completion of cleanup, it will be necessary for the Environmental Management program to maintain a presence at some sites to monitor, maintain, and provide information on the contained residual contamination. These activities will be necessary to ensure the reduction in risk to human health is maintained. Such stewardship will include passive or active controls, and, often, treatment of ground water over a long period of time. The extent of long-term stewardship required at a site will reflect the end-state developed in consultation among the Department of Energy and other representatives of the Administration, Congress, Tribal Nations, representatives of regulatory agencies and state and local authorities, representatives of nongovernmental organizations, and interested members of the general public.

Program Goal

Accelerating cleanup and project completion is a central goal of the Environmental Management program. This goal is part of the strategies identified in the *Accelerating Cleanup: Paths To Closure* document, whereby all Environmental Management sites are working aggressively to reduce outyear costs by completing projects as soon and as efficiently as possible, thereby reducing life-cycle costs and schedules. For those sites in the Post 2006 Completion account, treatment will continue for the remaining "legacy" waste streams.

Program Objectives

- Continue to address the most serious environmental risks across the Department of Energy complex and ensure that facilities and activities pose no undue risks to the public and worker safety and health.
- Continue to be substantially in compliance with applicable environmental and other requirements and meet compliance milestones.
- Continue surveillance and maintenance of facilities.

Performance Measures

Environmental Management has moved aggressively towards developing and implementing a performance-based budget that clearly demonstrates the program and project results expected for the resources requested. Building upon past experience, the FY 2000 budget was enhanced by aligning performance measures by project within the specific appropriation and program accounts. These performance measures can be found in the site details that follow.

Significant Accomplishments and Program Shifts

The FY 2000 budget request fully reflects the project-oriented structure that Environmental Management has developed as a key component of the effort to accelerate cleanup and reduce costs. All Environmental Management activities have been organized into projects which have a defined scope, schedule, cost, and end state. Through the strategies identified in the *Accelerating Cleanup: Paths to Closure* document, Environmental Management sites are working to sequence projects and track progress, thereby reducing life-cycle costs and schedules. Specific accomplishments and program shifts may be found in the site details that follow.

Funding Profile

(dollars in thousands)

	FY 1998	FY 1999	FY 2000	$ Change	% Change
Albuquerque Operations Office	975	1,611	6,000	4,389	272.4%
Oak Ridge Operations Office	65,547	71,105	3,802	-67,303	-94.7%
Savannah River Operations Office	4,248	0	0	0	0.0%
Multi-Site	10,738	9,274	9,120	-154	-1.7%
FY 1999 Activities Financed by Prior Year Balances	0	5,534	0	n/a	n/a
Subtotal, Post 2006 Completion, Non-Defense	81,508	87,524	18,922	-68,602	-78.4%
Use of Prior Year Balances	0	-5,534	0	5,534	n/a
Total, Post 2006 Completion, Non-Defense	81,508	81,990	18,922	-63,068	-76.9%

Public Law Authorization:

Public Law 105-245, The Energy and Water Development Appropriations Act, Fiscal Year 1999.

Albuquerque

Mission Supporting Goals and Objectives

Program Mission

The mission of the Non-Defense Environmental Management, Post 2006 Completion program, carried out by the Albuquerque Operations Office, is to support a portion of the activities at the Los Alamos National Laboratory in New Mexico.

Program Goal

The Los Alamos National Laboratory has been designated as the lead laboratory for planning and operations for the recovery and dismantlement of unwanted radioactive sealed sources, from both the public and private sector, which have no previous or current disposition options. In this capacity, the Los Alamos National Laboratory provides solutions to complex-wide technical and operational issues associated with stabilization and storage of plutonium and other nuclear materials.

Program Objectives

The objective of the Radioactive Source Recovery Program is to establish compliance with the Low-Level Radioactive Waste Policy Amendments Act of 1985 (Public Law 99-240) with respect to unwanted radioactive sealed sources, which under the Act, are made a Department of Energy responsibility. A further objective of this program is to remove these unwanted radioactive sources from the private and public sector as expeditiously as possible. This effort will reduce potential risk to the public health and safety and the environment by the systematic recovery of these sources for acceptance at the Los Alamos National Laboratory, where they can be deactivated and safely stored until a final disposition path is identified.

Performance Measures

Performance Measures are provided at an aggregate level after the Funding by Site table; as well as at a project level, in the Detailed Program Justification.

Significant Accomplishments and Program Shifts

This program was previously funded from the Department of Energy Headquarters as a developmental program. During this period the following accomplishments were made:

- Completed National Environmental Policy Act documentation to accept and dismantle unwanted radioactive sources at the Los Alamos National Laboratory.
- Established a method to respond to emergencies involving radioactive sealed sources in cooperation with the Nuclear Regulatory Commission and State nuclear material licensing agencies. Emergency recoveries have been made successfully.
- Implemented a procedure and conducted a pilot program to recover sources on a routine basis.
- Identified appropriate facilities at the Los Alamos National Laboratory to receive, store, and dismantle radioactive sources.
- Established cost-recovery feasibility per the requirements of Public Law 99-240.
- In FY 2000, this program shifts from a developmental effort to a fully operational program where infrastructure will be established and programmatic implementation will begin to achieve compliance with Public Law 99-240.

Funding Schedule

(dollars in thousands)

	FY 1998	FY 1999	FY 2000	$ Change	% Change
AL/RSRP/LANL/Radioactive Source Recovery Program	975	1,611	6,000	4,389	272.4%
Total, Albuquerque	975	1,611	6,000	4,389	272.4%

Funding By Site

(dollars in thousands)

	FY 1998	FY 1999	FY 2000	$ Change	% Change
Los Alamos National Laboratory	975	1,611	6,000	4,389	272.4%
Total, Albuquerque	975	1,611	6,000	4,389	272.4%

Site Description

Los Alamos National Laboratory

The Los Alamos National Laboratory encompasses over 43 square miles in northern New Mexico, and conducts major programs in multiple areas, including applied research in nuclear and conventional weapons in development, nuclear fission and fusion, nuclear safeguards and security, and environmental and energy research. The waste produced includes low-level, mixed, hazardous, transuranic, sanitary waste steams, and small amounts of other waste from research. The primary waste management activities include storage, treatment, and disposal of waste.

Detailed Program Justification

(dollars in thousands)

FY 1998	FY 1999	FY 2000

The Los Alamos National Laboratory is managed through an incentivized integrated contract, with fixed-price subcontracts, to assure the most cost efficient service to the Government. The scope planned for FY 2000 has been reviewed and is appropriate to meet the goals of the site as outlined in the *Accelerating Cleanup: Paths to Closure*. The projects included in this section of the budget have not had an independent cost review of the scope. This is a new project, and it has undergone an internal cost review. The funds requested for FY 2000 are appropriate to perform the activities based upon an internal cost review of this project and a review of similar projects that have undergone independent reviews at this facility.

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
AL/RSRP/LANL/ Radioactive Source Recovery Program			
The purpose of this program is to establish compliance with Public Law 99-240 with respect to the Department of Energy's responsibility for acceptance and disposition of unwanted radioactive sealed source devices and material covered by SECTION 3(b)(1) Paragraph (D) of the Act. Establishment of this program fulfills the Department of Energy's obligation to Congress described in the Recommendation of Management of Greater Than Class-C Low-Level Radioactive Waste Report to Congress in response to Public Law 99-240 (February 1987) (DOE/NE-0077) with respect to radioactive sealed sources. Establishment of this program in FY 2000 as an operational capability at the Los Alamos National Laboratory will begin the process of reducing risk to public health and safety and the environment posed by unwanted radioactive sealed sources for which no disposition path previously existed.			
# Fiscal Year 2000 becomes the first year of full operations where infrastructure and operational capability will be implemented on an operational basis to address compliance with Public Law 99-240 with respect to radioactive sealed source devices.			
AL/RSRP/LANL/Radioactive Source Recovery Program	975	1,611	6,000
Metrics No quantifiable corporate performance measures are associated with this project.			
Total, Albuquerque	975	1,611	6,000

Explanation of Funding Changes From FY 1999 to FY 2000

	FY 2000 vs. FY 1999 ($000)
AL/RSRP/LANL/Radioactive Source Recovery Program	
# Increase is due to transition from a Department of Energy Headquarters developmental effort, where planning and pilot-scale testing of methods and systems were demonstrated, to routine operational capabilities at the Los Alamos National Laboratory.	4,389
Total Funding Change, Albuquerque	4,389

Oak Ridge

Mission Supporting Goals and Objectives

Mission

The mission of the Non-Defense Environmental Management, Post 2006 Completion account, carried out by the Oak Ridge Operations Office, is to direct and monitor implementation of the non-defense liquid waste treatment operations at the Oak Ridge National Laboratory, as well as the facility deactivation and environmental restoration activities within the Oak Ridge Reservation and several off-site properties in Tennessee contaminated by the Oak Ridge facility operations. The non-defense activities are comprised of stabilization and deactivation of 50 excess facilities and their material at the Oak Ridge Reservation, and maintaining deactivated facilities in a safe, low cost, environmentally sound condition, awaiting final decommissioning at the 2,900 acre Oak Ridge National Laboratory. Deactivation of these facilities will reduce the risks posed by 1,400,000 curies of radioactive material and 60 tons of sodium and lithium hydride, and ultimately reduce the annual costs for surveillance and maintenance from $10,000,000 to $1,500,000 by FY 2003. Contamination at the Lower East Fork Poplar Creek and Clinch River/Poplar Creek are managed as off-site release sites.

Program Goal

The overall goal at the Oak Ridge Reservation is to complete all remedial action sites by FY 2013, and to meet acceptance criteria for transfer by FY 2003 to the decommissioning program of fifty excess facilities currently under the deactivation program. These activities assume a cumulative enhanced performance efficiency of about 30 percent through FY 1999.

Program Objectives

The program objectives are to continue surveillance and maintenance of 50 excess facilities and complete vulnerability resolutions in response to the Defense Nuclear Facilities Safety Board.

Performance Measures

Performance Measures are provided at an aggregate level after the Funding by Site table; as well as at a project level, in the Detailed Program Justification.

Significant Accomplishments and Program Shifts

- In FY 2000, the majority of the remediation and decontamination and decommissioning activities have been consolidated under the Defense appropriation.
- For those facilities, which make up the High Ranking and Isotopes Facilities Deactivation Programs, continued surveillance and maintenance activities for 41 facilities (FY 1998) and continue surveillance and maintenance for 27 facilities (FY 1999).
- At the Tower Shielding Facility, completed procurement of fuel baskets; completed removal/consolidation of surplus materials; removed radioactive sources at Buildings 7700B and 7704 not needed by lessee; leased the facility to a private company (FY 1998); and complete disposition of sodium and lithium hydride shields from the facility (FY 1999).
- At the Bulk Shielding Reactor, completed fuel removal and shipped to the Savannah River Site (FY 1998).
- Transitioned 14 facilities from nuclear material and facilities stabilization activities to environmental restoration activities (FY 1998) and complete deactivation of four facilities (Buildings 3026C, 3026D, 7720, and 13822) (FY 1999).
- Removed 1,190,500 curies of strontium and 27 curium sources from Building 3517 (FY 1998).
- Continued deactivation activities in Buildings 3026D and 3038 (completed cleanup of the barricades) (FY 1998) and continue deactivation activities in Building 3038 (FY 1999).
- For the Melton Valley Watershed, finalized the feasibility study and proposed plan (FY 1998) and issue Record of Decision (FY 1999).
- Completed sludge removal from the old hydro fracture tanks and gunite tank W-6 (FY 1998).
- Removed blockages from the Molten Salt Reactor experiment off gas system (FY 1998).
- Begin remedial action at the main plant surface impoundments in Bethel Valley (FY 1999).
- Provides grants to the State of Tennessee through Agreements-in-Principle and the Federal Facilities Act Agreement and funding for the National Metal Recycle Center of Excellence (FY 2000).
- Surveillance and maintenance required for excess facilities at the Oak Ridge National Laboratory in compliance with Code of Federal Regulations (FY 2000).

Funding Schedule

(dollars in thousands)

	FY 1998	FY 1999	FY 2000	$ Change	% Change
OR-38212 / Low-Level Waste	7,233	0	0	0	0.0%
OR-43201 / Oak Ridge National Laboratory Melton Valley Watershed	15,096	33,434	0	-33,434	-100.0%
OR-43202 / Oak Ridge National Laboratory Melton Valley Watershed Remedial Action	2,927	2,573	0	-2,573	-100.0%
OR-43203 / Oak Ridge National Laboratory Melton Valley Bethel Valley Remedial Action	19,194	18,473	0	-18,473	-100.0%
OR-43204 / Oak Ridge National Laboratory Bethel Valley Decontamination and Decommissioning	4,302	5,197	0	-5,197	-100.0%
OR-48203 / Off-site Remedial Actions	6,993	3,427	400	-3,027	-88.3%
OR-48204 / Directed Support	1,523	1,100	1,105	5	0.5%
OR-63201 / Nuclear Materials Facility Stabilization	8,279	6,901	2,297	-4,604	-66.7%
Total, Oak Ridge	65,547	71,105	3,802	-67,303	-94.7%

Funding By Site

(dollars in thousands)

	FY 1998	FY 1999	FY 2000	$ Change	% Change
Oak Ridge Reservation	15,512	6,901	2,297	-4,604	-66.7%
Oak Ridge National Laboratory	41,519	59,677	0	-59,677	-100.0%
Oak Ridge Off-site	6,993	3,427	400	-3,027	-88.3%
Oak Ridge Operations Office	1,523	1,100	1,105	5	0.5%
Total, Oak Ridge	65,547	71,105	3,802	-67,303	-94.7%

Metrics Summary

	FY 1998	FY 1999	FY 2000
Remedial Actions/Release Sites			
Assessments	9.0	78.0	85.0
Cleanups	8.0	4.0	5.0
Facilities			
Buildings Deactivated	0.0	0.0	10.0
In Post-Deactivation Monitoring	0.0	14.0	24.0
Not Yet Deactivated/Monitored	22.0	22.0	12.0
Nuclear Materials			
Made Disposition Ready - Other Forms of Nuclear Material	1.0	0.0	0.0
Facility Decommissioning			
Assessments	1.0	12.0	41.0
Spent Nuclear Fuel			
Stabilized (m^3)	0.032	0.132	0.000
Stabilized (MTHM)	0.013	0.015	0.000
Stable, Not Disposition Ready (m^3)	0.360	0.360	0.391
Stable, Not Disposition Ready (MTHM)	0.011	0.011	0.014
In Disposition Ready Storage (m^3)	0.000	0.256	0.605
In Disposition Ready Storage (MTHM)	0.000	0.151	0.177
In Stabilization Process (m^3)	0.009	0.000	0.000
In Stabilization Process (MTHM)	0.158	0.000	0.000
Made Disposition Ready (m^3)	0.056	0.031	0.016
Made Disposition Ready (MTHM)	0.091	0.000	0.005

SITE DESCRIPTION

Oak Ridge Reservation

The Oak Ridge Reservation encompasses about 37,000 acres and is comprised of three facilities; the Y-12 Plant, which was a uranium processing facility and now dismantles nuclear weapons components and serves as the nation's storehouse for special nuclear materials; the East Tennessee Technology Park, which was a uranium enrichment facility and is now being transitioned through reindustrialization; and the Oak Ridge National Laboratory, which conducts applied and basic research in energy technologies and in the physical and life sciences. Only the Oak Ridge National Laboratory is funded under the Non-Defense Post 2006 Completion account.

Oak Ridge National Laboratory

Activities carried out at the Oak Ridge National Laboratory historically have supported both the defense production operations and civilian energy research effort. This group of facilities requires cleanup resulting from a variety of research and development activities, which were supported from past DOE programs and many facilities were supported by multiple programs over a long period of time.

The Oak Ridge National Laboratory currently conducts applied and basic research in energy technologies and the physical and life sciences. Transuranic, mixed low-level, hazardous and sanitary, and industrial waste are managed at the three Oak Ridge Reservation facilities. Although the operations are different the waste generated from these operations is essentially the same.

Due to past efforts conducted, funding for annual assessment/cleanup has been split between two appropriation accounts and in FY 2000 the majority of support will be funded under the Defense Environmental Restoration and Waste Management Appropriation.

Off-Site

There are several off-site release sites including the Lower East Fork Poplar Creek, the Clinch River/Poplar Creek, the Atomic City Auto Parts, the Oak Ridge Tool and Engineering Site, and the David Witherspoon Site that were contaminated due to reservation operations. All waste types are stored, treated, and disposed in compliance with regulations.

Detailed Program Justification

(dollars in thousands)

FY 1998	FY 1999	FY 2000

The Oak Ridge Operations Office, Environmental Management, in the Non-Defense Post 2006 Completion account is managed through an incentivized integrated contract, with fixed-price subcontracts, to assure the most cost efficient service to the Government. The scope planned for FY 2000 has been reviewed and is appropriate to strive towards the goals of the site as outlined in the *Accelerating Cleanup: Paths to Closure*. The projects included in this section of the budget have had an independent review of the scope, and of the process used to develop the request for FY 2000.

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
OR-38212 / Low-Level Waste Non-Defense - Includes Line-Item construction project 94-E-602			
Perform all necessary activities to compliantly treat liquid low-level waste generated from the Oak Ridge National Laboratory.			
# Comparable FY 1999 and FY 2000 funding and metrics are under the Environmental Management/Defense Environmental Restoration and Waste Management Appropriation (PBS OR-38112/FY 1998 $32,643,000; FY 1999 $26,741,000; and FY 2000 $31,821,000); included in the funding totals in FY 1998 are $1,900,000 for line-item 94-E-602.			
OR-38212	7,233	0	0

Metrics	
Metrics for FY 1998-FY 2000 are reflected in PBS OR-38112 (Defense Environmental Restoration and Waste Management).	

OR-43201 / ORNL Melton Valley Watershed Decontamination and Decommissioning

This project is to decontaminate and decommission the inactive facilities in the Melton Valley Area of the Oak Ridge National Laboratory.

Comparable funding is under the Environmental Management/Defense Environmental Restoration and Waste Management Appropriation (PBS OR-43101/FY 1998 $6,623,000; FY 1999 $0; and FY 2000 $24,307,000).

OR-43201	15,096	33,434	0

Metrics			
Remedial Action/Release Sites			
Assessments	5.0	53.0	0.0
Cleanups	0.0	1.0	0.0

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
OR-43202 / ORNL Melton Valley Watershed Remedial Action			
This project is for the environmental restoration of all contaminated areas located in the lower half of the White Oak Creek Watershed.			
# Comparable funding is under the Environmental Management/Defense Environmental Restoration and Waste Management Appropriation (PBS OR-43102/FY 1998 $464,000; FY 1999 $0; and FY 2000 $1,300,000).			
OR-43202	2,927	2,573	0
Metrics			
Remedial Action/Release Sites			
Assessments	0.0	24.0	0.0
Cleanups	5.0	0.0	0.0
Facility Decommissioning			
Assessments	1.0	12.0	0.0
OR-43203 / ORNL Bethel Valley Remedial Action			
This project is for the environmental restoration and long-term surveillance and maintenance of all contaminated areas located in the upper half of the White Oak Creek Watershed.			
# Comparable funding is under the Environmental Management/Defense Environmental Restoration and Waste Management Appropriation (PBS OR-43103/FY 1998 $833,000; FY 1999 $0; and FY 2000 $28,569,000). Metrics are reflected below.			
OR-43203	19,194	18,473	0
Metrics			
Remedial Action/Release Sites			
Assessments	4.0	0.0	85.0
Cleanups	3.0	3.0	5.0
Facility Decontamination and Decommissioning			
Assessments	0.0	0.0	1.0

(dollars in thousands)

FY 1998	FY 1999	FY 2000

OR-43204 / ORNL Bethel Valley Decontamination and Decommissioning

This project is to carry out pre-decommissioning surveillance and maintenance to support ongoing Oak Ridge National Laboratory Bethel Valley Decontamination and Decommissioning activities.

Comparable funding is under the Environmental Management/Defense Environmental Restoration and Waste Management Appropriation (PBS OR-43104/FY 2000 $3,629,000). Metrics are reflected below.

OR-43204	4,302	5,197	0

Metrics			
Remedial Site			
Assessments	0.0	1.0	0.0
Facility Decommissioning			
Assessment	0.0	0.0	40.0
Cleanups	0.0	0.0	0.0

OR-48203 / Off-site Remedial Actions

This project is to address environmental restoration of locations down gradient from and/or outside the Department of Energy property.

Additional funding to support this activity is under the Environmental Management/Defense Environmental Restoration and Waste Management Appropriation and Uranium Enrichment Decontamination and Decommissioning Fund (total FY 2000 funding $23,839,000).

Conduct subcontract closeout activities.

OR-48203	6,993	3,427	400

Metrics
This project has associated corporate performance measures; however, no measures are reportable in the three year budget profile.

OR-48204 / Directed Support

This project is to carry out activities of directed support in FY 2000.

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
# Directed support provides grants to the State of Tennessee through Agreements-in-Principle and the Federal Facilities Act Agreement. This account also supports other directed support programs and is split-funded with the Environmental Management/Defense Environmental Restoration and Waste Management Appropriation and the Uranium Enrichment Decontamination and Decommissioning Fund (total FY 2000 funding $10,367,000).			
# Provide grants to the State of Tennessee.			
# Conduct subcontract close-out activities .			
# Conduct work-force transition activity not related to section 3161 of the Defense Authorization Act.			
# Provide funding for the National Metal Recycle Center of Excellence.			
# Conduct other directed activities.			
OR-48204	1,523	1,100	1,105

Metrics
No quantifiable corporate performance measures are associated with this project.

OR-63201 / Nuclear Materials Facility Stabilization

This project is responsible for the deactivation of 50 excess facilities at the Oak Ridge National Laboratory to a safe, low cost, and environmentally sound condition. The program also conducts surveillance and maintenance activities required to maintain the facilities in a safe, secure, and environmentally sound condition until deactivation is completed.

In FY 2000, the requested level of funding will provide the necessary, minimum level of surveillance and maintenance required to maintain excess facilities in a safe manner. By funding these activities in FY 2000, it will allow the program to be in compliance with the CFR 41-101.47.4000, which prohibits the abandonment of excess facilities. The funding level being requested is appropriate for these activities based on historical data. This project is split funded with the Defense Environmental Restoration and Waste Management Appropriation (total FY 2000 funding $9,937,000). The total metrics for this project are reflected below.

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
# Will continue surveillance and maintenance activities for 15 facilities.			
OR-63201	8,279	6,901	2,297

Metrics			
Facilities			
In Post-Deactivation Monitoring	0.0	14.0	24.0
Not Yet Deactivated/Monitored	22.0	22.0	12.0
Building Deactivations - Deactivated During Period	0.0	0.0	10.0
Nuclear Materials			
Made Disposition Ready - Other Forms of Nuclear Material	1.0	0.0	0.0
Spent Nuclear Fuel			
Stabilized (m^3)	0.032	0.132	0.000
Stabilized (MTHM)	0.013	0.015	0.000
Stable, Not Disposition Ready (m^3)	0.360	0.360	0.391
Stable, Not Disposition Ready (MTHM)	0.011	0.011	0.014
In Disposition Ready Storage (m^3)	0.000	0.256	0.605
In Disposition Ready Storage (MTHM)	0.000	0.151	0.177
In Stabilization Process (m^3)	0.009	0.000	0.000
In Stabilization Process (MTHM)	0.158	0.000	0.000
Made Disposition Ready (m^3)	0.056	0.031	0.016
Made Disposition Ready (MTHM)	0.091	0.000	0.005

Total, Oak Ridge	65,547	71,105	3,802

Explanation of Funding Changes From FY 1999 to FY 2000

	FY 2000 vs. FY 1999 ($000)
OR-43201 / Oak Ridge National Laboratory Melton Valley Watershed D&D	
# Comparable funding is under the Environmental Management/Defense Environmental Restoration and Waste Management Appropriation. The Oak Ridge National Laboratory is a complex, multi-program funded site, historically supporting both weapons production and energy research activities.	-33,434
OR-43202 / Oak Ridge National Laboratory Melton Valley Remedial Action	
# Comparable funding consolidated under the Environmental Management/Defense Environmental Restoration and Waste Management Appropriation. The Oak Ridge National Laboratory is a complex, multi-program funded site, historically supporting both weapons production and energy research activities.	-2,573
OR-43203 / Oak Ridge National Laboratory Bethel Valley Watershed Remedial Action	
# Comparable funding consolidated under the Environmental Management/Defense Environmental Restoration and Waste Management Appropriation. The Oak Ridge National Laboratory is a complex, multi-program funded site, historically supporting both weapons production and energy research activities.	-18,473
OR-43204 / Oak Ridge National Laboratory Bethel Valley D&D	
# Comparable funding consolidated under the Environmental Management/Defense Environmental Restoration and Waste Management Appropriation. The Oak Ridge National Laboratory is a complex, multi-program funded site, historically supporting both weapons production and energy research activities.	-5,197
OR-48203 / Off-site Remedial Action	
# Majority of the funding for off-site remediations is under the Environmental Management/Defense Environmental Restoration and Waste Management Appropriation and the Uranium Enrichment Decontamination and Decommissioning Fund.	-3,027
OR-48204 / Directed Support	
# No significant change.	5
OR-63201 / Nuclear Materials Facility Stabilization	
# This decrease is the result of all deactivation work scheduled for the High Ranking Facilities Deactivation Project and the Isotope Facilities Deactivation Project being deferred in order to direct limited funding resources to higher priority activities, including compliance requirements.	-4,604
Total Funding Change, Oak Ridge	-67,303

Savannah River

Mission Supporting Goals and Objectives

Mission

This program activity supports remediation at the Savannah River Site, which is located in south-central South Carolina and is bordered on the southwestern side by the Savannah River. The closest major population centers are Aiken, South Carolina and Augusta, Georgia. Operations at the Heavy Water Component Test Reactor was terminated in 1964 deactivated in 1963. Ancillary buildings and equipment were removed in 1994. National Environmental Policy Act documentation, asbestos removal and decontamination and decommissioning began in 1995. The partially decommissioned reactor is currently scheduled for decontamination and decommissioning surveillance and maintenance activities, which will continue until completion of the decontamination and decommissioning phase.

Program Goal

The Savannah River Site is committed to closure of the Heavy Water Component Test Reactor dome to prevent deliberate entry and removal of any exterior components not expected to last at least sixty years.

Program Objectives

The Savannah River Site intends to prepare the Heavy Water Component Test Reactor for long-term storage. Chemical, radiological, and toxic hazards will be controlled through confinement to protect site workers, the public and the environment.

This project provides for the deactivation of the Heavy Water Component Test Reactor only. Additional projects will be required to meet the Environmental Management site end state. Contamination in the Heavy Water Component Test Reactor has not been defined. No plans have been made to reuse the Heavy Water Component Test Reactor after deactivation (post-FY 1998).

No nuclear materials, spent fuel, or high-level waste are stored in the Heavy Water Component Test Reactor, nor will any be generated. Waste streams generated will be defined in the deactivation plan when complete. Specific treatment methodologies for these wastes will depend on characterization, which has not been performed at this time.

According to the Heavy Water Component Test Reactor draft deactivation plan, the reactor dome doors will be welded shut. No provision for routine surveillance and maintenance will be made. The Heavy Water Component Test Reactor will remain in this state until such time as a final disposition action is funded.

Performance Measures

Performance Measures are provided at an aggregate level after the Funding by Site table; as well as at a project level, in the Detailed Program Justification.

Significant Accomplishments and Program Shifts

The Heavy Water Component Test Reactor will be deactivated and placed into long-term surveillance and maintenance mode (FY 1998). No entries into the facility are planned after FY 1998.

Funding Schedule

(dollars in thousands)

	FY 1998	FY 1999	FY 2000	$ Change	% Change
SR-ER09 / Heavy Water Component Test Reactor Projects	4,248	0	0	0	0%
Total, Savannah River	4,248	0	0	0	0%

Funding By Site

(dollars in thousands)

	FY 1998	FY 1999	FY 2000	$ Change	% Change
Savannah River Westinghouse Company	4,248	0	0	0	0%
Total, Savannah River	4,248	0	0	0	0%

Detailed Program Justification

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
SR-ER09 / Heavy Water Component Test Reactor			
This project is intended to prepare the Heavy Water Component Test Reactor for long-term storage.			
# The reactor has been placed into long-term surveillance and maintenance mode. No funding required.			
SR-ER09	4,248	0	0

Metrics
No quantifiable corporate performance measures are associated with this project.

Total, Savannah River	4,248	0	0

Multi-Site

Mission Supporting Goals and Objectives

Mission

The mission of the Non-Defense Environmental Management Post 2006 Completion account carried out by the Multi-Site programs includes funding for a small number of essential crosscutting Environmental Management (EM) activities. This activity consists of technical support activities, Packaging Certification and Transportation Safety activities and the Pollution Prevention program. The Environmental Management program is being responsive to the General Accounting Office and others who have pushed for a greater emphasis on a more National focus for the EM programs.

Program Goal

The goals of the Multi-Site programs will allow EM to better coordinate EM-wide and Department of Energy (DOE)-wide program efforts and avoid overlaps and inconsistencies.

The mission of the Packaging Certification program is to support the protection of people and property from the potential consequences of normal and accident conditions of transport involving hazardous materials. The goals to support this mission are:

- Improve safety of packages used to transport hazardous materials through a program of design review, performance tests, and quality verification that satisfy internal operations and organizations external to the Department.
- Improve existing and develop new processes to maximize the efficiencies of these reviews and tests. Maintain an open and effective system of communication and coordination both internal and external to the Department.
- Ensure the package safety policies protect workers, the public, and the environment while providing program flexibility in accomplishing Departmental missions.
- Ensure that the Package Certification and Safety Program is the Department's technical knowledge and analysis center for hazards classifications, design reviews, package training support and safety requirements.
- Ensure that package safety policies are coordinated with all affected customers and provide sufficient clarity of guidance to be correctly implemented.

The mission of the Office of Pollution Prevention is to reduce the generation of all waste streams in order to minimize the impact of the Department's operations on the environment, reduce operational costs, and improve the safety and health of its operations.

These funds will allow the Department to meet the Secretary of Energy's pollution prevention goals to be achieved by December 31, 1999, as stated below:

- Reduce by 50 percent the generation of radioactive waste
- Reduce by 50 percent the generation of hazardous waste
- Reduce by 50 percent the generation of low-level mixed waste
- Reduce by 33 percent the generation of sanitary waste
- Recycle 33 percent of sanitary waste from all operations
- Increase procurement of Environmental Protection Agency designated recycled products to 100 percent, except where they are not commercially available at a reasonable price or do not meet performance standards.

The Department has established an additional goal to reduce waste generation from cleanup and stabilization activities by 10 percent annually, beginning in FY 1999 and will strive to achieve greater waste reduction in future years through continuous improvement.

Program Objectives

The Multi-Site activities focus' national attention on several areas that impact Environmental Management-wide goals and planned efforts, which cut across the Department of Energy complex.

Performance Measures

There are no Performance Measures associated with the Multi-Site activities.

Significant Accomplishments and Program Shifts

Technical Support to ER

Provide technical support for EM/environmental restoration initiatives, including performance measure tracking/verification activities; project/baseline review/analysis efforts; and strategic/management plans (FY 1998/FY 1999/FY 2000).

Packaging Certification

Continue efforts to reduce the backlog of safety reviews for packagings (FY 1998/FY 1999/FY 2000).

Represent the Department of Energy in the United States delegation supporting international transportation safety and packaging certification regulations (FY 1998/FY 1999).

Pollution Prevention

Maintain pollution prevention infrastructure at the Energy Technology Engineering Center, Lawrence Berkeley National Laboratory, and the Stanford Linear Accelerator Center to comply with the Resource Conservation and Recovery Act and the California pollution prevention requirements (FY 1998/FY 1999/FY 2000).

Funding Schedule

(dollars in thousands)

	FY 1998	FY 1999	FY 2000	$ Change	% Change
HQ-2-00 / Technical Support to ER	5,193	5,418	5,304	-114	-2.1%
HQ-PC-001 / Packaging Certification	4,648	3,756	3,716	-40	-1.1%
OPS/HQ-PP / Pollution Prevention	897	100	100	0	0.0%
Total, Multi-Site	10,738	9,274	9,120	-154	-1.7%

Site Description

The Multi-Site program budget supports the direction, coordination, tracking, and implementation of the EM programs among the multitude of sites where environmental management activities are being carried out. Activities supported include technical integration activities, document reviews, and cooperative agreements.

The Packaging Certification and Transportation Safety program activities provide for developing, coordinating, and implementing policies, standards, and guidance for aviation, maritime, rail, highway, pipeline, and hazardous materials safety for the Department. Under the authority provided by the United States Department of Transportation in 49 CFR, this program certifies Fissile and Type B packages for the transportation of radioactive materials for the Department. Evaluation and analysis of the Department of Energy line organizations' safety analysis reports for packaging are performed, in addition to providing external coordination between the Government and other governmental, commercial, and international bodies regarding packaging certification and transportation safety systems.

The Office of Pollution Prevention coordinates pollution prevention program activities for the entire Department and provides non-defense resources to the DOE Oakland Operations Office. Its mission is to reduce the generation of all waste streams in order to minimize the impact of the Department's operations on the environment, reduce operational costs, and improve the safety and health of its operations.

Detailed Program Justification

(dollars in thousands)

	FY 1998	FY 1999	FY 2000
The scope planned for FY 2000 has been reviewed and is appropriate to meet the goals of the site as outlined in the *Accelerating Cleanup: Paths to Closure* report. The funds requested for FY 2000 are appropriate to perform the activities based on a historical level of effort cost. No quantifiable corporate performance measures are associated with these projects.			
HQ-2-00 / Technical Support to ER			
The activities funded by this project include a variety of crosscutting efforts that support required Environmental Restoration and EM initiatives. Technical support is provided in the areas of performance measure tracking; information/data management integration; and project review/analysis.			
# Provide support for the cooperative agreement with the Volpe National Transportation System Center on improving management systems (including database support); the National Academy of Sciences (peer reviews on specific projects); the Environmental Protection Agency; and the General Service Administration.			
# Provide for Headquarters-supported field activities including crosscutting technical support, program integration efforts; and support for the Residual Radioactive Code Development.			
HQ-2-00	5,193	5,418	5,304

(dollars in thousands)

FY 1998	FY 1999	FY 2000

HQ-PC-001 / Packaging Certification

The Packaging Certification and Transportation Safety program supports the protection of people and property from the potential consequences of normal and accident conditions of transport involving hazardous materials. This program addresses the need for robust packages that provide containment in the event of a transportation incident or accident and the concerns of internal and external stakeholders. Activities also include developing, coordinating, and implementing policies, standards, and guidance related to aviation, maritime, rail, highway, pipeline, and hazardous materials safety. This program performs evaluations and analyses of safety analysis reports for packaging; providing external coordination between the Department and other governmental, commercial, and international bodies regarding transportation safety and packaging certification. The program participates in the development of transportation safety.

- # About 34 applications and safety analysis reports for highly hazardous materials packages will be certified and about two moderate hazardous materials package tests and approvals will be done.
- # Technical support or assistance in packaging safety to one field office may be provided.
- # The Standardized Computer Analyses for Licensing Evaluation and Small Casks Analysis System computer codes for confirmatory analysis during application and safety analysis report reviews, and the Radioactive Material Package database and website will be maintained.

HQ-PC-001	4,648	3,756	3,716

HQ/OPS-PP / Pollution Prevention

This activity coordinates pollution prevention activities for the entire Department and provides non-defense resources to the Department of Energy Oakland Operations Office. Its mission is to reduce the generation of all waste streams in order to minimize the impact of the Department's operations on the environment, reduce operational costs, and improve the safety and health of its operations.

	(dollars in thousands)		
	FY 1998	FY 1999	FY 2000
# Maintain effective and compliant pollution prevention programs at the Oakland Operations Office to comply with Federal and California laws and regulations related to pollution prevention and waste minimization.			
OPS/HQ-PP	897	100	100
Total Multi-Site	10,738	9,274	9,120

Explanation of Funding Changes from FY 1999 to FY 2000

	FY 2000 vs. FY 1999 ($000)
HQ-2-00 / Technical Support to ER	
# Environmental restoration crosscutting efforts in the areas of performance measure tracking, information/data management integration and project review and analysis are decreased.	-114
HQ-PC-001 / Packaging Certification	
# Decrease reflects reduction in the number of applications for highly hazardous materials package certifications and for moderate hazardous materials package tests.	-40
Total Funding Change, Multi-Site	-154